Growth of California Ports: Opportunities and Challenges

An Interim Report to the California State Legislature

Submitted by

California Marine and Intermodal Transportation System Advisory Council (CALMITSAC)

January 2006

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EXECUTIVE SUMMARY

Background and Introduction

Recognizing a growing crisis in port-related goods movement in California, Assembly Member Alan Lowenthal (now Senator) introduced AB 2043 on February 17, 2004. Governor Schwarzenegger signed the bill into law on September 29, 2004 creating the Maritime Port Strategic Master Plan Task Force Act. The Act requests the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC) to address the many challenges associated with the growth of California's ports and to report back to the legislature by January 1, 2006.

This interim report – to be followed by a final report in August 2006 – attempts to summarize the best thinking from around the state on the importance of the ports to the state and U.S. economies, strategies for improving the efficiency, reliability, velocity, capacity and security of the Marine Transportation System (MTS), while at the same time addressing the growing public health problems associated with freight, particularly the effects of diesel emissions. The purpose of this report is to then evaluate that information and develop a set of recommended action steps.

Economic Imperative: Improving Job Opportunities

Accounting for one in every seven jobs, international trade plays a huge role in the state's economy. California ports are major economic powerhouses and are the gateways to the rest of America. In 2004, containerized waterborne commerce through California's ports accounted for 40.2% of the national total. The combined value of exports and imports at the Los Angeles, San Francisco and San Diego Customs Districts has been estimated at $400 billion for 2004 and is projected to grow to nearly $513 billion in 2006.

The lockout of West Coast ports in September and October of 2002 dramatically illustrated the importance of maritime commerce. It has been estimated that the combined 10-day lockout and 23-day backlog disrupted trade valued at $6.28 billion just at the Ports of Long Beach and Los Angeles.

Failure to invest in goods movement infrastructure could mean significant losses of future state tax revenues. The Los Angeles County Economic Development Corporation (LAEDC) estimated that the state could forego a cumulative $17.2 billion in state income and sales taxes through 2035.

It has been said, "Quality of life begins with a job". The logistics sector is a very important employer, particularly for blue-collar workers. In 2003, logistics firms employed over 548,000 workers in Southern California alone. The average wage for logistics sector workers in 2003 was $45,314 per year, which is higher than in manufacturing ($43,871) and construction ($40,439). Providing good paying blue-collar jobs takes on greater importance considering that 46.8 percent of Southern California's adult population has not attended any college classes.

The economic benefits of goods movement are being threatened, however, by valid concerns over congestion, productivity (efficiency of use of existing transportation assets), air pollution, community impact, limited capacities of highways and railways, and inadequate funding levels. The inherent trade advantages enjoyed by California, and by extension the United States, could be negated if there is not a concerted statewide effort to maintain, enhance, modernize and expand the base of California port facilities and services.

Therefore, there must be a commitment to the growth of the state's goods movement industry and modernization of freight facilities while concurrently working to protect public health and the environment.

Public Health Imperative: Reducing Port-Related Air Pollution

Port operations are a significant source of diesel particulate matter (diesel PM) and oxides of nitrogen (NOx). Ocean-going vessels are the largest source of diesel emissions from ports. Collectively, ocean-going marine vessels, cargo handling equipment, trucks and trains emit a quarter of diesel particulate emissions in the South Coast Air Basin. Unless substantial emission controls are applied, these impacts will become even worse as cargo throughput increases.

Recent health risk studies have generated more and more concern about goods movement related air pollution. In 1998, the California Air Resources Board (CARB) identified diesel PM as a toxic air contaminant based on its potential to cause cancer. Diesel PM includes carbon particles or "soot" that can be seen in exhaust streams, and particles too small to be seen by the naked eye. According to CARB, about 70% of the potential cancer risk from toxic air contaminants in California is due to diesel PM.

On December 1, 2005, CARB released a draft emission reduction plan for ports and international goods movement in California. According to CARB staff, the health impacts of pollutants commonly associated with emissions from goods movement include premature death, cancer risk, respiratory illnesses, and increased risk of heart and blood vessel diseases. For areas in close proximity to major diesel sources, such as ports, rail

yards and along major transportation corridors, the increase in cancer risk from these sources alone can exceed 500 per million in some locations, according to the study. Since the concentration of diesel PM in the air declines with distance from the sources, risk decreases the farther one moves away from goods movement activity centers. However, even several miles away, the associated cancer risk can exceed 100 per million.

CALMITSAC is seeking opportunities to reduce environmental and negative public health impacts while allowing the economy to grow at the same time. The economy could stagnate, however, if the problems of increasing congestion and limitations in transportation capacity are not addressed.

Cargo Growth and Competition from Other West Coast Gateways

Growth in international trade continues to stress the rail and highway systems serving the ports. In 2004 the ports of Los Angeles and Long Beach handled a total of 13.1 million Twenty-foot Equivalent Units (TEUs) of containerized cargo. This is projected to more than triple by 2030 to almost 45 million TEUs. The Port of Oakland handled 2 million TEUs in 2004 and demand is projected to reach 6.5 million TEUs by 2030. Rapidly increasing trade with China is fueling much of this growth.

Given the pressures on the ports of Los Angeles, Long Beach and Oakland to manage rapid growth, the smaller ports in California will no doubt play a larger role in the future. Unfortunately, these smaller ports are not equipped to handle significant volumes of containerized cargo, so even if they were to attract some traffic from California's top three ports, the diversion would not significantly lessen the highway and railway infrastructure requirements for the Los Angeles/Long Beach and Oakland ports.

Other West Coast gateways are attempting to capitalize on the growth in Asian trade. The Ports of Seattle and Tacoma have excellent intermodal rail connections. There are proposals to build new port facilities in Mexico (e.g., Punta Colonet, 80 miles south of Ensenada) and in Canada (e.g., Prince Rupert, British Columbia, 500 miles north of Vancouver). In addition, the Panama Canal Authority has proposed a major expansion of the locks that would allow larger vessels to pass through the Canal. This one project alone could cost up to $13 billion and take at least 10 years to complete. Even then, it is doubtful that ports on the East Coast would be able to accommodate the larger vessels by then. East Coast ports do not have adequate water depth.

Diversion of cargo is not a viable solution to the state's congestion problems. The Waterfront Coalition, which represents major shippers, has determined that regardless of efforts to develop alternative West Coast gateways, Los Angeles and Long Beach will remain the primary entry points for eastbound imports into the United States.

Infrastructure Improvements, Operational and Productivity Enhancements

California's ports and the Waterfront Coalition have proposed a comprehensive program of infrastructure improvements and operational enhancements to improve efficiency and

productivity and to increase capacity, reliability, and velocity of cargo shipments. These include improvements to or replacement of port bridges, upgrades to port access roadways, expansion of on- and off-dock rail yards, grade separations, improvements to railroad main lines, channel dredging projects, and wharf upgrades. In total, the recommended capital projects are estimated to cost $17.7 billion.

At the San Pedro Bay Ports the highest priority project is the I-710/Gerald Desmond Bridge Gateway Program, which involves replacement of the aging Gerald Desmond Bridge and construction of two additional mixed-flow lanes and four truck-only lanes on I-710. The Port of Los Angeles I-110/SR-47 Connectors Improvement Program includes several projects designed to improve roadway access to the port. The Port of Los Angeles also plans to study options for improving or replacing the 4-lane Vincent Thomas Bridge. The port has also proposed the Navy Way connecter to westbound Seaside Avenue. The Alameda Corridor Transportation Authority (ACTA) is preparing designs for an improved Heim Bridge as part of the SR-47 Port Access Expressway. A major concern is that the existing bridge is seismically substandard.

The Ports of Los Angeles and Long Beach are currently updating their Rail Master Plan, which includes major infrastructure improvements to accommodate the growing use of on-dock rail. The proposed Southern California International Gateway (SCIG), a new near-dock rail yard proposed by the BNSF Railway Company, would greatly alleviate a projected shortfall in intermodal lift capacity – the ability to transfer cargo containers from trucks to trains and vice versa. The project could also eliminate about 1 million truck trips per year to Hobart Yard near downtown Los Angeles. The Union Pacific Railroad (UPRR) has proposed to expand its existing Intermodal Container Transfer Facility (ICTF) near the harbor.

Railroad main lines east of downtown Los Angeles need to be double or triple tracked to accommodate growth in freight and passenger trains, and the Colton rail-to-rail grade crossing needs to be separated. The triple tracking of the Cajon Pass between San Bernardino and Barstow needs to be completed.

The Ports of Los Angeles and Long Beach and the Alameda Corridor Transportation Authority (ACTA) are working on operational strategies as well as capital improvements to manage cargo growth and to minimize environmental impacts. These three entities recently completed an analysis of the impact of six specific strategies to reduce truck traffic and increase rail traffic. The strategies are:

- Extended gate hours (PierPass)
- Virtual Container Yard (VCY)
- Increased use of on-dock rail
- New near dock rail facilities
- Local shuttle trains
- SR-47 viaduct

Since becoming operational on July 23, 2005, the PierPass extended gate hour program has increased the percentage of off-peak truck moves from 15% to 35% of total weekly truck moves. A "virtual" container yard (VCY) is an Internet-based matching service for empty containers. It is designed to reduce the number of unproductive empty container moves to/from the ports. The VCY for San Pedro Bay will be operational by April of 2006. A VCY is already in operation in the San Francisco Bay Area.

Without the implementation of the six strategies, truck traffic on I-710 is likely to triple by 2030, along with the projected tripling of cargo. With full implementation of the strategies, however, growth in truck traffic on I-710 could be kept to a doubling. The truck reduction strategies will help manage traffic congestion, but they will not obviate the need for freeway improvements including the construction of four truck-only lanes (two in each direction).

To the north, the Port of Oakland has proposed the 7th Street Grade Separation and Roadway Improvement, the Outer Harbor Intermodal Terminal (OHIT), and improvements to the Joint Intermodal Terminal. The Port of Oakland and local agencies are supporting improvements to the I-80/I-680/SR-12 interchange and an eastbound truck-climbing lane on I-580. The port is also promoting the California Interregional Rail Intermodal System (CIRIS), a short-haul rail system serving California's Central Valley to shift container trips from truck to rail.

California's smaller ports have proposed a variety of projects, including land acquisition to expand operations, grade separations to reduce traffic conflicts, roadway upgrades to improve access to port facilities, dredging projects to accommodate larger vessels, wharf upgrades to facilitate cargo handling, regional short sea services and rail improvements to improve access and to reach new markets.

In addition to providing new infrastructure, it is critical that ports strive to measure productivity and labor availability, identify sources of inefficiency and delay, and develop specific programs to make better use of existing transportation assets. Recommended management and operational enhancements include:

- Develop uniform measures of terminal productivity and capacity.
- Measure the growing shortage of truck drivers.
- Expand extended hours of operation and shorten free time.
- Institute a universal port-wide truck appointment system.
- Establish a common chassis pool.
- Spread out vessel sailings and arrivals to make maximum use of terminal capacity.

Labor plays a critical role in terminal productivity. The following operational changes for improved productivity should be considered, recognizing that these will require in-depth discussion and resolution with International Longshore and Warehouse Union (ILWU) officials:

- Through technology, allow workers to be dispatched directly to the job site as opposed to reporting to the dispatch hall for job selection.
- Allow employers to hire a greater percentage of their terminal employees as "steady" workers as opposed to the large numbers of workers that are dispatched daily to regularly available jobs. Worker familiarity and experience with a given terminal can in itself improve productivity.
- Stagger lunch hours to maximize terminal operations.

Environmental Enhancements

Efforts to expand port area infrastructure must be accompanied by environmental enhancements. Substantial effort has been made in identifying goods movement environmental mitigation strategies.

The ports are committed to reducing emissions and need to be recognized for the significant progress they have already made in combating pollution. The Port of Oakland's Clean Air Program includes initiatives to reduce emissions, including a truck re-powering program providing cash incentives to truckers for replacing engines with newer cleaner engines. The Port of Long Beach has adopted an aggressive and comprehensive Green Port Policy dedicated to reducing the harmful effects of port-related operations. Many of the programs included in the Green Port Policy are in-place and currently generating "green" benefits. In Los Angeles, the No Net Increase (NNI) Task Force compiled a list of 68 measures to reduce emissions. The Port of Los Angeles has recently refined this list and now recommends an emphasis on alternative fuels such as liquefied natural gas, hydrogen, and biofuels.

Emissions reduction programs are being designed for each segment of the goods movement industry. For marine vessel main engines, they include cleaner fuels), scrubbers, after-treatment, and internal engine modifications. For vessel auxiliary engines, they include clean fuels, cold ironing or add-on controls. Establishment of a Sulfur Emission Control Area for North America would expedite the switch to cleaner vessel fuels. At rail yards and docks, they include clean diesel and alternative fueled switcher locomotives and cargo handling equipment. For railroads they include lower emission line-haul locomotives, and for trucks they include truck modernization and fleet turnover programs.

Market-driven solutions to emissions control may reduce goods movement-related emissions in a cost-effective manner. The Port of Long Beach, through its Maritime Goods Movement Coalition (ports, terminal operators and fuel and energy providers), has proposed a market-driven "Goods Movement Attainment Plan." Regulated sources would be able to select the most cost-effective means of reducing emissions and tailor controls to match their own unique operations in ways that often cannot be anticipated by regulators. The plan would also allow sources to generate and trade emission reduction credits to help finance emission reductions and to reward early actions. The plan would also include an investment fund financed by sources unable to meet the performance targets that would be invested in pollution control.

CALMITSAC believes that investing in cleaner trucks and working to reduce truck trips would be the quickest and most tangible methods to achieve meaningful emissions reductions. Accordingly, one program that deserves special recognition is the Gateway Cities Council of Governments' Clean Air Program, which provides subsidies for the replacement of older, more-polluting trucks with newer, cleaner models.

CARB's Draft Emission Reduction Plan for Ports and International Goods Movement in California identifies specific near-term measures and longer-term mitigation approaches that need further work prior to adoption and implementation. The goal of the plan is to cut port-related emissions back to 2001 levels no later than 2010 and to continuously reduce emissions thereafter until ambient air quality standards are met and community impacts are mitigated. The plan also includes strategies to reduce public health risk from port-related diesel emissions by about 65% by 2020.

Working together as part of a global alliance, California's public and private sectors can improve environmental conditions while maintaining and expanding the state's vital goods movement sector.

Port and Maritime Security

Securing maritime transportation involves cooperation among the ports and industry participants, supported by local, regional, national and international government agencies. Security relies on a "layered" approach with multiple lines of defense from the origin to the final destination of a shipment. It is critical that the various agencies involved with port and maritime security work together to avoid overlap, duplication of effort and conflicting regulations. There also needs to be greater sharing of intelligence information among federal, state and local agencies.

At the local port level, ports and terminals are increasing surveillance, fencing, lighting, training, and patrols. Much of this security is self-funded, as federal port security funding has been inadequate. While California accounts for 40% of the containerized waterborne commerce in the U.S, in the most recent round (FY 2005) of federal port security funding, California received $33,599,417, or 24% of the national total of $141,969,968. This is entirely insufficient to help protect the critical trade infrastructure on which the U.S. economy relies.

Federal agencies that are involved in port security include the Coast Guard, the Bureau of Customs and Border Protection (CBP), and the Transportation Security Administration (TSA), all of which are housed in the Department of Homeland Security (DHS), and the Maritime Administration (MARAD).

The Coast Guard evaluates, boards, and inspects commercial ships as they approach U.S. waters, and manages the Notice of Arrival (NOA) rules for ships entering U.S. ports. Through their Maritime Domain Awareness (MDA), the Coast Guard is expanding the

Automatic Identification System (AIS), a vessel tracking system to monitor ship traffic in harbors.

CBP is responsible for inspecting cargoes, including containers, and for examining and inspecting ship crews and cruise ship passengers arriving in U.S. ports from any foreign port. One layer of defense used by CBP is the mobile Vehicle and Cargo Inspection System (VACIS), which consists of a truck-mounted, non-intrusive gamma ray scanning the interiors of cargo vehicles and containers. CBP also uses the Radiation Portal Monitor (RPM), which provides a passive, non-intrusive means to screen containers for the presence of nuclear and radiological materials. CBP has implemented two very important counter-terrorism programs: the Container Security Initiative (CSI) and the Customs-Trade Partnership Against Terrorism (C-TPAT).

The TSA's responsibility extends to all modes of transportation, both cargo and passenger, including working with the CBP to conduct the Operation Safe Commerce (OSC) pilot project. OSC attempts to verify the contents of containers at their point of origin, ensure the physical integrity of the containers in transit, and track their movement from origin to destination over all modes of transportation. OSC currently involves the three largest U.S. load centers: the ports of Los Angeles/Long Beach, New York/New Jersey, and Seattle/Tacoma. TSA is also field-testing a Transportation Worker Identification Card (TWIC) for workers in all modes of transportation. The purpose of the TWIC is to control access to secure areas of passenger and cargo facilities.

MARAD is part of the U.S. Department of Transportation and supports the U.S. commercial maritime industry. MARAD publishes Maritime Security reports and a planning guide on security, provides security-training curricula and serves on the Container Working Group, which has made classified recommendations on how best to ensure the security of maritime container transportation.

In addition, the non-profit Maritime Information Services of North America (MISNA) – comprised of a network of Marine Exchanges in the U.S. and Canada – has developed the capability to bring in both AIS and satellite generated data into a hybrid vessel tracking system called the Automated Secure Vessel Tracking System (ASVTS). CALMITSAC urges rapid installation of this system for the Coast Guard district covering California ports.

Local organizations and universities are also involved. After 9/11, CALMITSAC's Southern California affiliate, the Southern California Marine Transportation System Advisory Council (SOCAL-MTSAC), developed vessel and marine terminal security guidelines, which have now been embraced by all U.S. Pacific Ocean ports in California, Oregon, Washington, Hawaii, Alaska, and Guam. Six campuses of the California State University system formed the Pacific Area Port Security Center Consortium (PAPSCON) on November 1, 2004. The consortium intends to conduct pilot projects in port and intermodal security at West Coast seaports in cooperation with federal agencies. Under a strategic plan, the work would address risk-based vulnerabilities and capability gaps

identified in a CALMITSAC port security and consequence management survey planned for 2006.

CALMITSAC believes that technology will play a major role in improving port security. RFID e-seals on containers are a good example. Normal seals simply check for mechanical integrity, but a determined criminal can bypass the seal by removing an entire door with the seal intact. E-seals allow for cost-effective monitoring from origin to destination. E-seals also can contain the container number, potentially making error-prone optical character recognition (OCR) systems obsolete.

Funding

Unfortunately, resolving all of the problems discussed above will take a significant amount of capital investment. There are three principal categories of funding: 1) existing grants and loan programs, 2) new sources of revenue at the state or federal level, and 3) project-specific revenue bonds negotiated through Public-Private Partnerships.

The largest source of existing grants and loans is the federal government. However, the federal government will not be able to provide all the funds required to keep the goods flowing efficiently. Signed into law on August 10, 2005, the Safe, Accountable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (SAFETEA-LU), will provide $286.4 billion in guaranteed spending for highways, rail and transit programs over six years (FY 2004 to FY 2009). The Act provides several funding programs of interest to the goods movement sector. However, SAFETEA-LU granted far less funding for key projects than requested.

Another source of existing funds is the federal Energy Policy Act of 2005, which President Bush signed into law on August 8, 2005. Title VII of the Act (Vehicles and Fuels) provides a variety of grants for reducing emissions from diesel sources.

Existing state funds are extremely limited. The State Transportation Improvement Program (STIP) and Interregional Transportation Improvement Program (ITIP) are generally oversubscribed. The Regional Transportation Planning Agencies (RTPAs) propose 75% of STIP funding for regional transportation projects in their Regional Transportation Improvement Programs (RTIPs). The California Department of Transportation (Caltrans) proposes 25% of STIP funding for interregional transportation projects in the Interregional Transportation Improvement Program (ITIP).

At the state level several new sources of funds are being considered. SB 1024, as amended on September 8, 2005, would provide $10,275,000,000 in General Obligation (G.O.) bonds for transportation projects, emissions reduction programs and environmental enhancements, levee and flood control projects, transit oriented development, housing, regional growth and infill developments. This bill was amended in the Senate, however, on January 26, 2006. The revised bill leaves the amount of bonding unspecified.

The September 8 version of the bill included $2.5 billion for the California Ports Infrastructure, Security, and Air Quality Improvement Account. If SB 1024 moves forward independently of other bond proposals, CALMITSAC recommends that funds currently identified in the bill for grade separations on the High Speed Rail Corridor be redirected to key freight railroad-highway grade separations and rail-rail grade separations such as the Colton crossing.

SB 1024 also includes funding for urban infill projects. CALMITSAC believes that SB 1024 should stipulate that state funding would not be used to support housing projects next to existing freight rail yards, freight railroad tracks, or industrial facilities. Such housing projects simply generate protests and needlessly subjects residents to air and noise pollution.

Assembly Speaker Nunez has authored another bond proposal through AB 1783. This bill does not specify a dollar amount for infrastructure improvements. Instead, the bill outlines principles to be used in allocating bond funds to various programs, including repayment of transportation funds, goods movement and environmental mitigation, flood control, housing, and several other programs.

On January 7, 2006 Governor Schwarzenegger unveiled his Strategic Growth Plan (SGP), which calls for $68 billion in G.O. bonds and $800 million in Lease Revenue bonds to support a $222 billion infrastructure program over the next ten years. Included in this proposal are $12 billion in G.O. bonds for transportation infrastructure development and environmental mitigation. CALMITSAC endorses this program, but recommends a number of changes and clarifications to the implementing legislation (SB 1165 and AB 1838).

The Los Angeles County Economic Development Corporation (LAEDC) has proposed the West Coast National Freight Gateway Program. This program entails a three-pronged funding strategy involving a $100 per TEU ($200 per FEU) container fee paid by retailers, a 10-percent Customs carve-out, and tax credit bonds.

With SB 760, Senator Lowenthal took another approach. This is a two-year bill calling for a $30 per TEU “regulatory” fee ($60 per FEU) on each shipping container processed in the ports of Los Angeles and Long Beach.

Over the last few years, there have been several congressional efforts to carve out Customs duties for port security purposes. CALMITSAC believes that Customs carve-out proposals are a futile exercise, because:

- U.S. trade negotiators are whittling away at the source of revenue.
- Due to NAFTA and other trade treaties, there is no reliable increment of growth in Customs’ duties.
- All previous legislative attempts have failed.
- U.S. farmers are trying to hold onto an important source of agricultural subsidies.

- Importers and the White House Office of Management and Budget continue to be opposed.

The shipping industry strongly opposes legislatively imposed fees and Customs carve-outs, including proposals for using an "increment of growth" in Customs duties. The Waterfront Coalition believes that a legislated fee could be challenged on constitutional grounds.

This does not mean that industry arbitrarily opposes all user fees. There should be a clear distinction between a legislatively imposed fee and a negotiated fee for projects that benefit the industry. Shippers and terminals negotiated the PierPass program involving a $40 per TEU fee for peak-period gate moves. The Waterfront Coalition was instrumental in facilitating the negotiations for PierPass. The Alameda Corridor fee (initially set at $15 per loaded TEU) was a negotiated fee approved by the railroads.

Project-specific revenue streams for focused, well-managed projects can be protected for the benefit of bondholders and users alike. Specific plans of finance must be developed around a limited set of high-priority projects; i.e., future success stories, that all stakeholders agree are absolutely essential, as opposed to mandating user fees through legislation.

CALMITSAC believes the correct approach is to negotiate Public-Private Partnerships for high-priority infrastructure projects. CALMITSAC respectfully requests members of the legislature to refrain from introducing new container fee bills in 2006. Goods movement stakeholders must be given an opportunity to negotiate funding agreements. They cannot do this if they have to put all their time and energy into fighting legislation that they believe is unworkable. Worse yet would be a drawn-out legal battle between shippers/maritime industry lawyers and those advocating a legislated fee. This would guarantee that no progress would be made on the important infrastructure projects and environmental programs so badly needed in California.

First, a consensus on the priority projects and programs must be developed. Second, funding shares must be negotiated. It has been said that shippers will "pay for value" measured in terms of reduced delay, or increased velocity or reliability. The only way to foster true Public-Private Partnerships is to first demonstrate real value to the various stakeholders, and then negotiate shared funding responsibility.

Project Delivery and Options for Project Ownership and Operation

Rating agencies and investors seek to reduce investment risk. One way to reduce risk is to use design-build procurement. Another method of expediting project delivery is "design sequencing." Design sequencing allows the sequencing of design activities to permit each construction phase to commence when design for that particular phase is complete instead of requiring the design for the entire project to be complete before construction can begin. With design sequencing, agency-employed engineers design and inspect projects. With design-build projects, the design-build consortium performs all design,

construction and inspection. Privately owned and operated facilities, such as toll roads, can help governments to attract alternative financing and to manage risk. Examples of privately owned or operated facilities are the SR-125 toll road project in San Diego County and the Chicago Skyway.

CALMITSAC encourages transportation agencies to seriously consider the option of private ownership and operation, particularly for toll roads such as the proposed truck-only lanes. SB 1165 (Dutton) and AB 1838 (Oropeza) would extend design-build authority to "local transportation entities" in addition to Caltrans. Having the flexibility to award design-build contracts and/or to enter into lease agreements would be desirable.

The Role of Academic Institutions in Statewide Goods Movement

California's universities will continue to play a pivotal role by assessing the impacts, both positive and negative, of goods movement. The academic community, in partnership with the research arms of agencies such as Caltrans and the California Air Resources Board, offer economic and operational analysis, effective modeling and forecasting methods, and means of measuring productivity. Universities evaluate the effectiveness of policies and programs sponsored by both the public and private sectors to improve goods movement. This helps to identify industry Best Practices at the state and local level, nationally and internationally.

Representative centers of transportation research include the METRANS Transportation Center. Model programs exist at California State University, Long Beach (CSULB), through the Center for International Trade and Transportation (CITT) and the California Maritime Academy (CMA). CMA offers majors in Global Studies and Maritime Affairs, Marine Transportation and Marine Engineering Technology. CMA also offers a comprehensive program of Continuing Education.

Recommendations

Time for action is now. California needs a series of success stories and a willingness to fund them.

CALMITSAC offers the following specific recommendations:

A. Economic Growth

1) Reject proposals for slow growth, no growth or moratoria on port growth. These proposals would negatively impact the state and national economies, hurt opportunities for upward mobility for blue-collar workers, reduce tax revenue, and result in other negative social impacts.

2) Recognize that growing the economy and protecting the environment and public health are cornerstone objectives. These tasks must be done concurrently.

B. Environment

1) Aggressively seek reductions in diesel emissions. Recognize that diesel engine emissions have serious health effects and are therefore the "Achilles Heel" of port and goods movement development. Use environmental enhancements listed in Appendices C and D as a guide.

> Without substantial reductions in diesel emissions, goods movement infrastructure projects are in jeopardy. CALMITSAC believes that reducing truck traffic and accelerating the replacement and upgrading of the truck fleet engines can bring immediate reductions in diesel emissions. Thus, programs like the Gateway Cities truck replacement program should receive significant supplemental funding. A consensus much be reached, however, on whether the truck replacement should emphasize newer, cleaner diesel-powered trucks (the current approach), or LNG-powered trucks, as suggested by the Port of Los Angeles, or a combination of the two approaches.

2) Give serious consideration to market-based approaches to emissions reduction, such as that recommended by the Maritime Goods Movement Coalition.

3) Continue to implement the San Pedro Bay Ports/ACTA truck trip reduction program.

4) Strongly encourage EPA to rapidly finalize its proposed rulemaking for the Control of Emissions of Air Pollution from New Locomotive Engines and New Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder.

C. Project Priorities, Funding, and Public-Private Partnerships

1) Establish priorities for major infrastructure projects, operational improvements, and environmental mitigations, using project lists in Appendices A – D as a guide.

2) Consult shippers, ports, terminals, vessel operators, trucking companies, railroad firms, and the environmental community in the selection of high-priority infrastructure projects.

3) Concentrate on those projects that are ready to go and clearly of high priority. The Governor must exercise leadership by establishing statewide priorities for goods movement development.

4) Identify value and risks of proposed projects to all stakeholders.

5) Negotiate Public-Private Partnerships for the high-priority projects; develop detailed plans of finance, including negotiated shares from federal, state, and local

sources and the private sector. Establish appropriate "fire walls" to prevent the funds from being diverted to other projects or programs. Ramp up fees on a project-by-project basis. Project-based fees would sunset when debt service is paid off for any one project.

6) Given the limitations of federal and state funding, recognize that "self-help" strategies will be the primary way to complete the financing for key high-priority projects.

7) Abandon efforts to secure a "Customs carve-out," including proposals to capture an "increment of growth" in customs duties.

8) Establish institutional arrangements for implementation, emphasizing single-purpose entities with a clearly defined mission and decision-making authority. Implementing agencies must have a strong track record in cost and schedule control.

9) Think in terms of how to obtain "investment grade" revenue bond ratings from bond rating agencies. Investment grade financial instruments are required that will stand the test of private and public scrutiny. Projects that receive investment grade ratings are likely to receive higher priority for implementation.

10) Give serious consideration to the option of private ownership and operations for key facilities such as truck-only toll lanes.

D. Labor Availability and Terminal Productivity

1) Identify sources of inefficiency and delay, and develop specific programs to make better use of existing transportation assets.

2) Measure the severity of the looming shortage in truck drivers.

3) Establish uniform methods of computing terminal productivity and capacity.

4) Through technology, allow workers to be dispatched directly to the job site as opposed to reporting to the dispatch hall for job selection.

5) Allow employers to hire a greater percentage of their terminal employees as "steady" workers as opposed to the large numbers of workers that are dispatched daily to regularly available jobs. Worker familiarity and experience with a given terminal can in itself improve productivity.

6) Stagger lunch hours to maximize terminal operations.

7) Explore the use of federal anti-trust immunity for terminals to cooperate in developing port-wide appointment systems.

8) Establish a common chassis pool to improve productivity and turn times within terminals.

9) Spread out vessel sailings and arrivals in the trans-Pacific trade to make maximum use of terminal capacity.

E. Legislation

1) Urge the Legislature and Governor's office to resolve differences among various bond proposals as soon as possible.

2) Seek passage of SB 1165 and AB 1838, the implementing legislation for the Governor's Strategic Growth Plan, with following recommended changes:

    a. Incorporate port security provisions of SB 1024, including $100 million in General Obligation bonds, into SB 1165 and AB 1838.
    b. Reduce the matching requirement for the Trade Corridors and Goods Movement Infrastructure bonds from 4:1 to 1:1.
    c. Allow all non-General Obligation funds, whether programmed or not, to be used as matching funds.
    d. Extend design-build authority to ports, transportation joint powers authorities, county and city public works departments, and local and regional transportation agencies.
    e. Allow port authorities and transportation joint powers authorities to enter into agreements with private entities for owning or operating transportation facilities.
    f. In developing guidelines for the distribution of funds to transportation and air quality programs, give serious consideration to geographic equity based in part on the relative volumes of international cargo flowing through various regions of the state.

3) If SB 1024 moves forward independent of other bond proposals, seek the following amendments:

    a. Redirect funding proposed for grade separations on the High-Speed Rail Corridor to freight rail-highway grade separations and the proposed rail-rail grade separation at Colton crossing
    b. Stipulate that state funding for urban infill projects be disallowed for housing next to freight rail yards, freight railroad tracks and other industrial facilities.

4) Refrain from introducing new container fee bills. Allow government and industry time to negotiate Public-Private Partnerships for infrastructure development and environmental mitigation.

5) Urge Congress to develop and pass legislation that would implement a national goods movement policy.

6) Develop a California consensus position on goods movement development, then work closely with the entire California congressional delegation, the West Coast Corridor Coalition, the Waterfront Coalition and other stakeholders to develop a unified approach to lobbying for additional federal support for goods movement related projects, port security and environmental programs, including approval by the U.S. Senate of The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI.

F. Port Security

1) Encourage the various agencies involved with port and maritime security to work together to avoid overlap, duplication of effort and conflicting regulations.

2) Encourage sharing of intelligence information among federal, state and local agencies. Identify the barriers to intelligence sharing, such as state government, local government, and port authority officials having incompatible levels of security clearances.

3) Urge rapid installation of the Automated Secure Vessel Tracking System (ASVTS) by the U.S. Coast Guard District Eleven Command, which covers all California ports.

4) Urge adoption of a global radio-frequency standard for e-seals for use on marine containers.

5) Conduct the survey proposed by CALMITSAC to evaluate the current status, organizational structure and effectiveness of port security and consequence management efforts in the State of California, including an assessment of vulnerabilities, capability gaps, level of training, exercise plans and procedures.

G. Education

1) Encourage industry leaders to identify skill sets needed for workers at all levels of employment, including entry level. Encourage academic leaders to review curricula within planning, business and engineering programs to ensure that adequate training opportunities exist to produce supply chain management professionals with those various skill sets.

2) Review state directed research programs and priorities to ensure that they emphasize goods movement and trade and transportation issues. Available funding, grants, and training opportunities will encourage faculty who already have an interest in these topics and develop new educators in the trade and transportation disciplines.

3) Encourage state agencies to apply training and continuing education funds toward professional development in the area of goods movement, logistics, maritime, supply chain management and trade and transportation.

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Growth of California Ports: Opportunities and Challenges

An Interim Report to the California State Legislature

Submitted by

California Marine and Intermodal Transportation System Advisory Council (CALMITSAC)

January 1, 2006

1. Background and Introduction

Recognizing a growing crisis in port-related goods movement in California, Assembly Member Alan Lowenthal (now Senator) introduced AB 2043 on February 17, 2004. Governor Schwarzenegger signed the bill into law on September 29, 2004 creating the Maritime Port Strategic Master Plan Task Force Act. The Act requests the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC) to address the many challenges associated with the growth of California's ports and to report back to the legislature by January 1, 2006. CALMITSAC is a regional subunit of the Marine Transportation System National Advisory Council (MTSNAC) chartered by U.S. Secretary of Transportation Norman Mineta under the Federal Advisory Council Act (P.L. 92-463).

The tasks outlined in AB 2043 are directly related to CALMITSAC's mission, which is:

> To foster development of a Marine Transportation System (MTS) in California that is safe, secure, efficient, environmentally sound, and capable of expanding to meet the demands of the global economy.

Specifically, the Act asks CALMITSAC to address the projected growth and congestion of the ports, impacts of port growth on the state's transportation system, air pollution caused by the ports and proposed mitigations, and port security. This interim report – to be followed by a final report in August 2006 – attempts to summarize the best thinking from around the state on the importance of the ports to the state and U.S. economies, strategies for improving the efficiency, reliability, velocity, capacity and security of the MTS, while at the same time addressing the growing public health problems associated with freight, particularly the effects of diesel emissions. The purpose of this report is to then evaluate that information and develop a set of recommended action steps.

A great deal is at stake: air quality, public health, quality of life, efficiency of goods movement, congestion relief, jobs, income, profits, and tax revenue. CALMITSAC believes that growing the economy and protecting the environment and public health are

cornerstone objectives. CALMITSAC's approach is consistent with State policy[1] on goods movement, which is to improve and expand California's goods movement industry and infrastructure in a manner that will:

- Generate jobs.
- Increase mobility and relieve traffic congestion.
- Improve air quality and protect public health.
- Enhance public and port safety.
- Improve California's quality of life.

CALMITSAC is pursuing opportunities for environmental and industry stakeholders to find common ground and to develop goods movement solutions that create more and better jobs while advancing California's economic future and quality of life.

2. Economic Imperative: Improving Job Opportunities

The "economy" is not an abstract concept. Rather, the economy is supporting your family, putting food on the table, having access to health care, being able to afford to send your kids to college, and maybe taking a vacation every now and then. In short, a strong economy means a good quality of life. It has been said, "Quality of life begins with a job".[2]

A recent study for the Southern California Association of Governments (SCAG) by Dr. John Husing demonstrates that the logistics sector is a very important employer, particularly for blue-collar workers.[3] In 2003, the logistics sector in Southern California included 38,706 firms with 548,278 workers. The average wage for logistics sector workers in 2003 was $45,314 per year, which is higher than in manufacturing ($43,871) and construction ($40,439). Providing good paying blue-collar jobs takes on greater importance considering that 46.8% of Southern California's adult population has not attended any college classes. As Dr. Husing has said one must be concerned about *economic justice* as well as environmental justice. Dr. Husing's report asserts that the logistics sector can help replace lost manufacturing jobs and offer upward mobility for blue-collar workers.

Dr. Husing is not alone in his views on the importance of logistics. The California Workforce Investment Board (CWIB) believes that the logistics sector is worthy of focused job training and infrastructure investment.

> The State of California and its regions need to understand the opportunity presented by the growth of logistics as part of globally competitive

[1] Business, Transportation & Housing Agency, California Environmental Protection Agency, "Policy Statement on Goods Movement in California," January 27, 2005. http://www.arb.ca.gov/gmp/policy.pdf.
[2] Pilar M. Hoyos, Watson Land Company, testimony to hearing of Business, Transportation and Housing Agency and California EPA, Los Angles, March 24, 2005.
[3] John E. Husing, Ph.D., Logistics & Distribution: An Answer to Regional Upward Social Mobility, June 9, 2004.

> manufacturing value chains and invest in the workforce and infrastructure required to meet increasing demand. Public and private investments in the logistics workforce training partnerships and infrastructure create "triple bottom line" benefits for the economy through increased jobs and productivity; equity benefits through higher wages and opportunities for career progression; and the environment through reduced bottlenecks, waste and pollution.[4]

There needs to be a balanced commitment to environmental quality and economic health. The occasional suggestions calling for a moratorium on port growth or on the goods movement industry are not viable options as they would be detrimental to the California and U.S. economies and could have other negative social impacts.

Accounting for one in every seven jobs, international trade plays a huge role in the state's economy. California ports are major economic powerhouses and are the gateways to the rest of America. In 2004, containerized waterborne commerce through California's ports accounted for 40.2% of the national total – up from 32.5% in 1994 and 28.5% in 1984.[5] As shown in the table below, three of the four largest container ports in the country are located in California (Los Angeles, Long Beach, and Oakland). Combined, Los Angeles and Long Beach represent the fifth largest port complex in the world.

2004 Top Ports in North America and the World in Twenty-Foot Equivalent Units (000)

Top North American Ports		Top World Ports	
1. Los Angeles	7,320	1. Hong Kong	21,930
2. Long Beach	5,780	2. Singapore	21,330
3. NY/NJ	4,478	3. Shanghai	14,550
4. Oakland	2,043	4. Shenzhen	13,660
5. Charleston	1,864	LA/LB COMBINED	13,100
6. Hampton Roads	1,809	5. Busan	11,430
7. Tacoma	1,798	6. Kaohsiung	9,710
8. Seattle	1,776	7. Rotterdam	8,220
9. Vancouver	1,665	8. Los Angeles	7,320
10. Savannah	1,662	9. Hamburg	7,000
11. San Juan	1,625	10. Dubai	6,420
12. Houston	1,438	11. Antwerp	6,060
13. Montreal	1,226	12. Long Beach	5,780

Source: American Association of Port Authorities (AAPA)[6] and Port of Los Angeles

[4] Collaborative Economics, Inc., Logistics and Manufacturing Value Chains: Meeting the Workforce and Infrastructure Demands of a "Real Time" Economy, July 2005. This paper was prepared for the California Regional Economies Project, a joint effort of the California Workforce Investment Board and the California Economic Strategy Panel.

[5] AAPA website, U.S/Canada Container Traffic in TEUS (1980-2004).

[6] http://www.aapa-ports.org/industryinfo/statistics.htm

The lockout of West Coast ports in September and October of 2002 dramatically illustrated the importance of maritime commerce. It has been estimated that the combined 10-day lockout and 23-day backlog disrupted trade valued at $6.28 billion just at the Ports of Long Beach and Los Angeles. Severe terminal, highway or railway capacity constraints can have the same economic effects as the lockout of 2002. Transport delays will impact the cost of doing business, the environment, and our nation's ability to compete internationally.

The combined value of exports and imports at the Los Angeles, San Francisco and San Diego Customs Districts in 2004 has been estimated at $400 billion and is projected to grow to nearly $513 billion in 2006.[7] Nationwide, over 2 million jobs are linked to the Ports of Los Angeles and Long Beach. About 27% of those jobs are located in California and about 22% in the five-county Los Angeles region.[8]

Failure to invest in goods movement infrastructure could mean significant losses of future state tax revenues. The Los Angeles County Economic Development Corporation (LAEDC) estimated that the state could forego a cumulative $17.2 billion in state income and sales taxes through 2035:

> The cumulative impact on the state's revenues over three decades [2005-2035] is enormous: $12.7 billion in lost state income taxes and $4.5 billion of sales taxes for the state. The total sales tax revenues missed would be higher still, since hundreds of millions in sales taxes that are returned to local jurisdictions is not included here.[9]

The economic benefits of goods movement are being threatened, however, by valid concerns over congestion, productivity (efficiency of use of existing transportation assets), air pollution, community impact, limited capacities of highways and railways, and inadequate funding levels. The inherent trade advantages enjoyed by California, and by extension the United States, could be negated if there is not a concerted statewide effort to maintain, enhance, modernize and expand the base of port facilities and services at Oakland, San Francisco, Stockton, Sacramento, Richmond, Redwood City, Benicia, Humboldt, Los Angeles, Long Beach, Hueneme, and San Diego. Each of these ports plays a specialized role in support of the wide variety of goods shipped. They work cooperatively and systematically to move California's and the nation's goods.

3. Public Health Imperative: Reducing Port-Related Air Pollution

Port operations are a significant source of diesel particulate matter (diesel PM) and oxides of nitrogen (NOx). Ocean-going vessels are the largest source of diesel emissions

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[7] LAEDC, 2005-2006 Economic Forecast & Industry Outlook for the Los Angeles Five-County Area, January 2005.

[8] Percentages from Port of Long Beach, Economic Impacts: Contributing to the Local, State & National Economies, 2005.

[9] LAEDC, The West Coast National Freight Gateway (WCNFG): A Trade Congestion Reduction Program, 2005. Figures shown are for a specific investment scenario. http://www.laedc.org/data/pdf/LAEDC_2005-WCNFGProgram-FullReport.pdf

from ports. The enormous diesel engines that power container vessels are not equipped with emission control devices. Based on California Air Resources Board (CARB) surveys, ships visiting California ports run on fuel containing an average of 2.5% sulfur fuel (25,000 parts per million). In contrast, on and off-road sources in the country will soon be required to use fuel with fifteen parts per million sulfur.[10]

Collectively, ocean-going marine vessels emit more nitrogen oxides every day than all the power plants, refineries and 330 other largest stationary sources in the South Coast Air Basin.[11] There are no state or local emission standards applicable to marine vessel engines. The International Maritime Organization (IMO) regulates emissions from vessels. The U.S. Environmental Protection Agency (EPA) issued regulations mirroring, but not tightening the IMO standards in 2003. EPA is expected to revisit the regulatory requirements in 2006.

Cargo handling equipment, trucks and trains are other important sources of diesel exhaust. Collectively, all of these sources along with ships emit a quarter of diesel PM emissions in the South Coast Air Basin.

Unless substantial emission controls are applied, these impacts will become even worse as cargo throughput increases. Emissions from marine vessels are expected to actually increase in coming years. This is in contrast to virtually every other source category in the South Coast Air Quality Management District (SCAQMD) inventory, including trucks and cargo-handling equipment, which have emissions that are projected to decline. For example, a new truck sold in 2007 will be 60 times less polluting than a new truck sold in 1987.[12] However, the problem with emissions from older vehicles must be addressed by accelerating the turnover of the truck fleet.

Recent health risk studies have generated more and more concern about goods movement related air pollution. In 1998, the California Air Resources Board identified diesel PM as a toxic air contaminant based on its potential to cause cancer. Diesel PM includes carbon particles or "soot" that can be seen in exhaust streams, and particles too small to be seen by the naked eye.[13] According to CARB, about 70% of the potential cancer risk from toxic air contaminants in California is due to diesel PM.

In October 2005, CARB released a draft health risk assessment for exposure to diesel PM emissions for areas near the Ports of Long Beach and Los Angeles. The study estimated that about 50,000 people living closest to the port are exposed to cancer risks of up to, and in some cases over, 500 new cancer cases per million people – just from diesel PM

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[10] California Air Resources Board, Draft Emission Reduction Plan for Ports and International Goods Movement in California, December 1, 2005.

[11] Peter Greenwald, Senior Policy Advisor for the South Coast Air Quality Management District, presentation to Senate Subcommittee on California Ports and Goods Movement, Oakland, CA, November 15, 2005.

[12] Gateway Cities Council of Governments, PowerPoint presentation, "Review of Existing Air Quality Plans & Initiatives Impacting the Gateway Cities Subregion," May 24, 2005.

[13] California Air Resources Board, Fact Sheet on Maritime Ports and Air Quality, http://www.arb.ca.gov/msprog/offroad/marinevess/documents/portfs111804.pdf

sources within the boundaries of the ports. Risk is expressed as the number of chances in a population of a million people who might be expected to get cancer over a 70-year lifetime. For the 50,000 people closest to the ports, that means an estimated 25 new cancer cases above the expected rate of cancer in the population. The expected rate of cancer for all causes including smoking is about 200,000 to 250,000 chances in a million, or one in four to five people. That means that of the 50,000 people living nearest the ports, 10,000 to 12,500 people would be expected to get cancer over their lifetimes. 25 new cases divided by 10,000 to 12,500 expected cases implies an increase of 0.2% to 0.25% over the expected number of cases.

Further from the port the risk goes down but the number of people exposed goes up. CARB estimated that nearly 60% of the 2 million people that live in the area around the ports have predicted cancer risks exceeding 100 in a million.[14] That translates to 120 new cases above the expected number of cancer cases.

On December 1, 2005, CARB released an emission reduction plan for ports and international goods movement in California. According to CARB staff, the health impacts of pollutants commonly associated with emissions from goods movement include premature death, cancer risk, respiratory illnesses, and increased risk of heart and blood vessel diseases. CARB staff estimated that emissions from current (2005) goods movement activities in the state would result in approximately 750 premature deaths per year. Without additional emissions control, that figure could rise to approximately 920 premature deaths per year by 2020. To put that number in perspective, CARB staff estimates that the total statewide deaths associated with particulate exposure are approximately 9,000 per year. For areas in close proximity to major diesel sources, such as ports, rail yards and along major transportation corridors, the increase in cancer risk from these sources alone can exceed 500 per million in some locations, according to the study. Since the concentration of diesel PM in the air declines with distance from the sources, risk decreases the farther one moves away from goods movement activity centers. However, even several miles away, the associated cancer risk can exceed 100 per million.[15]

CARB estimates that 60% of premature deaths associated with goods movement are in the South Coast Air Basin, which has more emissions and more people than other regions. San Diego, San Francisco, and the San Joaquin Valley air basins collectively account for 18%, with the remaining distributed primarily among a few other urban areas. Other quantifiable health impacts identified by CARB staff include air pollution related hospitalizations, asthma attacks and missed work/school days. Particulate matter, primarily from diesel engines (e.g., diesel exhaust), and pollutants (e.g., NOx) that form ozone and particulate matter in the atmosphere are key pollutants associated with these health effects.

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[14] California Air Resources Board, Draft Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach, October 2005, p.7. http://www.arb.ca.gov/msprog/offroad/marinevess/documents/100305draftexposrep.pdf

[15] California Air Resources Board, Draft Emission Reduction Plan for Ports and International Goods Movement in California, December 1, 2005.

For the 15-year period between 2005 and 2020, CARB estimated that the economic valuation of these health effects is approximately $70 billion in present value dollars. This assumes a value of $9.3 million (in 2020) per life ended prematurely.

The South Coast Air Quality Management District (SCAQMD), the local regulatory agency responsible for achieving stationary air pollution emission reductions in Los Angeles, Orange, Riverside, and San Bernardino Counties, makes the following observations:[16]

- Air quality in the South Coast Air Basin is still the worst in the nation.
- Sources in goods movement are key contributors to our air pollution problem.
- Stationary sources like factories and power plants have been controlled to well over 90%.
- The majority of emissions are from mobile sources. This means that clean air cannot be achieved without significant reductions in emissions from sources in goods movement.
- Many sources in goods movement are relatively uncontrolled, and absent application of new control strategies, more cargo means more pollution.
- Air quality must be a primary consideration in any goods movement plan.

A University of Southern California (USC) School of Medicine epidemiological study found that children growing up in areas of the South Coast Air Basin with relatively high particulate pollution have higher rates of reduced lung function. This reduced lung function may be permanent, because it was found in children at ages when their lungs largely stopped developing. Reduced lung function is a risk factor for numerous serious ailments and mortality.[17]

CALMITSAC is seeking opportunities to reduce environmental and negative public health impacts while allowing the economy to grow at the same time. The economy could stagnate, however, if the problems of increasing congestion and limitations in transportation capacity are not addressed.

4. Cargo Growth and Competition from Other West Coast Gateways

4.1 Ports of Los Angeles, Long Beach, and Oakland

Growth in international trade continues to stress the rail and highway systems serving the ports. In 2004 the ports of Los Angeles and Long Beach handled a total of 13.1 million Twenty-foot Equivalent Units (TEUs) of containerized cargo. This is projected to more than triple by 2030 to almost 45 million TEUs. The Port of Oakland handled 2 million

[16] Peter Greenwald, Senior Policy Advisor for the South Coast Air Quality Management District, presentation to Senate Subcommittee on California Ports and Goods Movement, Oakland, CA, November 15, 2005.

[17] W. J. Gauderman et al, "The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age," The New England Journal of Medicine, September 9, 2004

TEUs in 2004 and demand is projected to reach 6.5 million TEUs by 2030. Efforts to accommodate this growth through infrastructure improvements and operational enhancements are discussed in Section 5.

Containerized Cargo Forecasts to 2030 for San Pedro Bay Ports and Port of Oakland
Millions of Twenty-foot Equivalent Units (TEUs)

	San Pedro Bay Ports	Port of Oakland
2004 actual	13.1	2.0
2010	19.7	2.7
2020	36.0	4.2
2030	44.7	6.5

Sources: Port of Los Angeles, Port of Long Beach, and Port of Oakland

Rapidly increasing trade with China is fueling much of this growth. The U.S. trade deficit with China reached $162 billion in 2004 – twice what it was in 2001. For January through October 2005, the trade deficit with China was $166.8 billion.[18] With 1.3 billion people[19] China has an almost inexhaustible supply of low-cost labor. In 2002, the manufacturing worker in China made an average of 57 cents per hour.[20] Wal-Mart bought approximately $18 billion in merchandise from China in 2004, and 70% of the products sold at Wal-Mart stores are made in China.[21] Chinese products accounted for 53% of the loaded container imports through the Port of Long Beach in 2004.

Given the pressures on the ports of Los Angeles, Long Beach and Oakland to manage rapid growth, the smaller ports in California will no doubt play a larger role in the future. Their service to the state in handling dry bulk, liquid bulk, break bulk and roll-on/roll-off and specialized cargo is often overlooked. Unfortunately, these smaller ports are not equipped to handle significant volumes of containerized cargo, so even if they were to attract some traffic from California's top three ports, the diversion would not significantly lessen the highway and railway infrastructure requirements for the Los Angeles/Long Beach and Oakland ports.

Because of the San Pedro Port congestion of 2004, approximately 356,000 TEUs of containerized cargo diverted to the Ports of Seattle, Tacoma and Oakland between August 2004 and July 2005. This represented a 4.1% loss of Asian import market share for the San Pedro Bay Ports. The share of U.S. West Coast imports from Asian ports captured by the Ports of Seattle, Tacoma, and Oakland grew from 19.8% in 2003/2004 to 23.9% in 2004/2005. [22]

[18] http://www.census.gov/foreign-trade/balance/c5700.html#2004
[19] July 2005 estimate. http://www.odci.gov/cia/publications/factbook/geos/ch.html#People
[20] Judith Banister, Manufacturing Employment and Compensation in China, prepared for U.S. Department of Labor, Bureau of Labor Statistics, November 2005, Table 8, p. 76. http://www.bls.gov/fls/chinareport.pdf
[21] http://www.chinadaily.com.cn/english/doc/2004-11/29/content_395728.htm
[22] Source: Alameda Corridor Transportation Authority, based on Asian import data for the top 10 U.S. West Coast ports from The Journal of Commerce, October 17, 2005, p 12. POLB actually gained share in

4.2 Ports of Seattle, Tacoma, and Portland

Seattle and Tacoma have excellent intermodal rail connections. The Port of Tacoma pioneered on-dock intermodal rail yards in the early 1980s, and has positioned itself as an intermodal gateway ever since. In 2005, over 70% of the port's 2.1 million TEUs of containerized cargo moved via on-dock rail for shipment to points inland. Since 2001 the Port of Tacoma has invested an average of $32 million per year in capital funds to expand and maintain its intermodal networks and facilities. The first regional Freight Action Strategy (FAST) project was constructed at Tacoma in 2001, a grade separation eliminating a key rail-vehicle conflict at Port of Tacoma Road and SR-509. The Port of Tacoma invested over $8 million in this project, and since has invested an additional $6 million in FAST projects from Everett to Sumner to improve freight mobility throughout the region.

The Port of Tacoma has estimated growth of 133% in intermodal lifts between 2004 and 2009. Recently the port completed the Comprehensive Tideflats Traffic Study, a long-term strategic plan for managing surface transportation corridor growth and expansion, and the Rail System Alternatives Analysis (RSAA), which builds upon a 1996 long-range rail expansion study. The RSAA recommended six priority projects that would allow the port to more than double its intermodal rail traffic by 2008. Construction will begin in January 2006 on the first two of these priority projects: Bullfrog Junction third track and Chilcote Junction Expansion. The remaining projects are under design. In November 2005, the Port of Tacoma initiated the Off-Tideflats Infrastructure Study and Modeling (OTIS-M), which will analyze specific infrastructure opportunities to support port customers throughout the region and an action plan to implement those options.

The Port of Portland has excess capacity, but currently Hanjin Lines is the only container operator calling there. The port has excellent on-dock rail capabilities and ample land for terminal expansion. The port's existing container terminal and intermodal yard can accommodate 400,000 TEUs annually. Because container ships typically require a deeper draft, Portland's 40-foot navigation channel reduces the port's ability to compete with other West Coast ports for containerized freight. Begun in June of 2005, the $150 million Columbia River Navigation Channel Improvement (CRNCI) project will deepen the Columbia River's 103.5-mile channel from 40 to 43 feet. To date, 27 miles of the channel have been deepened.

Additional infrastructure improvements at the Port of Portland include:

- Delivery of the Port's third Post-Panamax crane in March of 2006.
- Construction of a third rail line into the T-6 container terminal which will be dedicated to intermodal rail traffic. One-third complete, the project will be finished in early 2006.

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this time period (+2.9%) while POLA lost share (-7.0%), for a combined San Pedro Bay loss of -4.1%. Even though POLB's market share grew, it probably would have grown even more had it not been for the 2004 congestion. It would not be accurate to conclude that all San Pedro Bay diversion was from POLA only.

- Recent completion of the Lombard St. overpass project, which removed two at-grade rail crossings from the entrance to the T-6 intermodal rail yard.

- Construction of the Ramsey Rail Yard to expedite rail access to the Port's bulk, auto and container terminals as well as the Rivergate Industrial District which is adjacent to port terminals.

4.3 Ports of Mexico and Canada

In Mexico there are proposals to expand ports to attract some cargo that would normally flow through Los Angeles and Long Beach. One proposal at Punta Colonet, 80 miles south of Ensenada, calls for a new container port with an initial capacity of about 1 million TEUs per year with an ultimate capacity of 8.3 million TEUs per year. At Punta Colonet, land is plentiful and inexpensive and there is no apparent restriction on growth. The developer, Hutchison Port Holdings of Hong Kong, has agreed to build a city to house 60-100,000 people. There is also a Memorandum of Understanding for the Union Pacific Railroad (UPRR) to build a rail link to the U.S. This port could have rapid access to U.S. interior markets and could also serve the California market via the Carrizo Gorge Railway as a link between the UPRR to the east and the Burlington Northern Santa Fe Railway (BNSF) to the west.

Another proposal at the Port of Lazaro Cardenas on the coast of Michoacan state envisions a new container terminal and intermodal rail terminal. Hutchison Port Holdings is involved in this project as well. The terminal would allow the shipment of Asian cargo to the U.S. via the Kansas City Southern-owned Texas Mexican Railway, which crosses the U.S. border at two points: Laredo, TX and Brownsville, TX. Hutchison is reportedly speaking with several Mexican port cities as well as with Yuma, Tucson, Dallas and Houston.

Tucson, AZ is promoting an inland port known as "Puerto Nuevo." This project could accept cargo from California ports as well as from Ports in Mexico, such as Guaymas, Mazatlan, Topolobampo, and Manzanillo.[23]

At Prince Rupert, British Columbia, 500 miles north of Vancouver, BC there are plans for a 160-acre terminal that could handle an estimated 2 million TEUs per year. This port will begin receiving containers in 2006 and the rail link that is in place will provide access to the Chicago and eastern U.S. markets. While this will add another west coast container portal, it is not expected to diminish infrastructure requirements at California ports.

4.4 The Panama Canal

The Panama Canal Authority has proposed a major expansion of the locks that would allow larger vessels up to 10,500 TEUs to pass through the Canal. This one project alone could cost up to $13 billion and take at least 10 years to complete. Even then, it is

[23] http://www.puertonuevotucson.com/

doubtful that ports on the East Coast would be able to accommodate the larger vessels by then. East Coast ports do not have adequate water depth.[24]

Ron Widdows, CEO of APL Ltd., said recently, "It shows that the No. 1 priority for developing our port and rail infrastructure has to be in Southern California. We have to expand the capacity of those ports and improve the productivity of the capacity that is already there, and we'll have to improve the country's intermodal connectors to handle what the canal can't."[25]

It is clear that diversion of cargo is not a viable solution to the state's congestion problems. In a recent report the Waterfront Coalition said, "Regardless of efforts to develop alternative West Coast gateways, Los Angeles and Long Beach will remain the primary entry points for eastbound imports into the United States."[26]

5. Infrastructure Improvements, Operational and Productivity Enhancements

The Ports of California and the Waterfront Coalition have proposed a comprehensive program of infrastructure improvements and operational enhancements to improve efficiency and productivity and to increase capacity, reliability, and velocity of cargo shipments. These projects and programs are summarized below and listed in detail in Appendix A and Appendix B. In total, the capital projects are estimated to cost $17.7 billion.

5.1 San Pedro Bay Ports

At the San Pedro Bay Ports the highest priority project is the I-710/Gerald Desmond Bridge Gateway Program. The I-710 project includes ten mixed flow lanes (five in each direction) and 4 exclusive truck lanes (two in each direction). The freeway component of the project is expected to cost $5.5 billion.

A related high-priority program is the proposed improvement or replacement of the three bridges to Terminal Island: the Gerald Desmond Bridge (on the east), the Commodore Heim Bridge (on the north), and the Vincent Thomas Bridge (on the west). The Port of Long Beach plans to replace the existing 5-lane Gerald Desmond Bridge, which is 155 feet high. The new bridge would have six lanes to meet projected traffic demand and a height of 200 feet to accommodate the newest generation of vessels. The new Gerald Desmond Bridge is expected to cost $800 million. The Port received $100 million for the new bridge in the Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which President Bush signed into law on August 10, 2005.

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[24] Drewry Shipping Consulting Ltd., Panama Canal Study, prepared for APL Ltd., November 2005, p. 4. Currently the physical limits on vessel dimensions through the Canal are a draft of 12m, a length of 294m, and a beam of 32.3m. The proposed new locks would increase these limits to 15+m draft, 427m length, and 54.9m beam.

[25] Ron Widdows, APL Ltd., The Journal of Commerce, November 21, 2005, p. 16.

[26] The Waterfront Coalition, National Marine Container Transportation System, May 2005, p. 19.

The Alameda Corridor Transportation Authority (ACTA) is preparing designs for an improved Heim Bridge as part of the $420 million SR-47 Port Access Expressway. A major concern is that the existing bridge is seismically substandard.

The Port of Los Angeles plans to study options for improving or replacing the 4-lane Vincent Thomas Bridge. The Port received $1.6 million in SAFETEA-LU for the bridge study. The ultimate project has not yet been defined.

Tolling is one of the funding options for these bridge projects. The Ports of Long Beach and Los Angeles are completing a comprehensive tolling study for Terminal Island.

The Port of Los Angeles I-110/SR-47 Connectors Improvement Program includes several projects to improve roadway access to the port. This $192 million program focuses on connectors to the I-110 and SR-47 from C Street/Harry Bridges Boulevard on the north to Harbor Boulevard/Front Street on the south. The following specific projects are included: I-110/SR-47 interchange improvements, I-110/"C" Street interchange improvement, Harry Bridges Boulevard widening, and the Fries Avenue grade separation. The port has also proposed the Navy Way connecter to westbound Seaside Avenue.

The Ports of Los Angeles and Long Beach possess major on-dock rail facilities. In 2004, both ports combined handled over 1.3 million marine containers (or approximately 2.4 million TEUs) via on-dock rail, or 18.6% of total port container throughput. In the first half of 2005, this percentage grew to 21%. One reason for the recent increase in on-dock rail activity is that BNSF imposed quotas at Hobart Yard near downtown Los Angeles, eliminated free time, and imposed a $150 per day demurrage fee.

The San Pedro Bay Ports are currently updating their Rail Master Plan (RMP), which includes over $1.3 billion of proposed infrastructure improvements to accommodate the growing use of on-dock rail. Current constraints at the Port of Long Beach include the lack of 8,000-foot arrival and departure tracks, and lack of adequate storage tracks for intermodal equipment. The proposed expansion of the port's Pier B Street Rail Yard would correct these deficiencies. The Port of Los Angeles plans to provide a new on-dock yard at the Trans Pacific (TRAPAC) Container terminal. With the aid of computer simulation, the two ports are currently evaluating the need for additional track and signal improvements to alleviate potential bottlenecks in the port-area rail system through 2030.

To facilitate the use of on-dock rail, serious efforts are being made to improve communication among railroads, terminals, shipping lines, and labor. Demonstrating a strong commitment to improved productivity and efficiency, the on-dock rail improvement program includes a series of meetings between terminals and railroads to facilitate this communication and promote better planning. This is a team effort, with the goal of reducing truck traffic and reducing emissions by increasing the use of existing on-dock facilities.

There is also a growing shortage in intermodal lift capacity – the ability to transfer cargo containers from trucks to trains and vice versa. The proposed Southern California

International Gateway (SCIG), a new near dock rail yard proposed by the BNSF, would greatly alleviate this shortfall and at the same time eliminate about 1 million truck trips per year to the more distant Hobart Yard, which is 20 miles north of the ports. The SCIG is estimated to cost $200 million.

At a cost of approximately $100 million, the UPRR has proposed to expand its existing Intermodal Container Transfer Facility (ICTF) located immediately north of the proposed SCIG. Residents in Wilmington and west Long Beach are concerned about the truck traffic generated by these near-dock facilities. These issues need to be resolved in a manner that will facilitate the needed development of near-dock rail capacity while addressing the concerns of local residents.

Railroad mainlines east of downtown Los Angeles need to be double or triple tracked to accommodate growth in freight and passenger trains, and the Colton rail-to-rail grade crossing needs to be separated. The Cajon Pass between San Bernardino and Barstow needs to be triple tracked. The BNSF has already completed six-miles of triple track along the Cajon line from San Bernardino to Verdemont.

There are also many highway-rail grade separations that need to be funded and built. Communities along these mainlines are clearly losing their patience when it comes to delays at grade crossings. 127 grade separations are needed in the Alameda Corridor-East area including Los Angeles, Orange, San Bernardino and Riverside Counties. Lack of funding for grade separations is a critical issue.

The Ports of Los Angeles and Long Beach and the Alameda Corridor Transportation Authority (ACTA) are working on operational strategies as well as capital improvements to manage cargo growth and to minimize environmental impacts. These three entities recently completed an analysis of the impact of six specific strategies to reduce truck traffic and increase rail traffic. The strategies are:

- Increased use of on-dock rail
- New near dock rail facilities
- Extended gate hours (PierPass)
- Local shuttle trains
- SR-47 viaduct
- Virtual Container Yard (VCY)

PierPass' OffPeak program has been successful in moving truck volumes to off-peak hours, including the night shift (6:00 p.m. to 3:00 a.m.) and to a Saturday day shift.[27] PierPass has spread the volume of cargo over more hours and more days and has given cargo owners more time to retrieve their containers before free time expires. Prior to PierPass, off-peak moves (night and weekend) at the Port of Long Beach accounted for less than 15% of the weekly volume. For the week ending December 4, 2005 off-peak traffic accounted for 36% of the weekly total.

[27] www.PierPass.org.

ACTA has developed plans to implement a shuttle train pilot project to haul local import containers to Colton rail yard, and then to truck them to warehouses in the Inland Empire. ACTA has been negotiating with the Union Pacific Railroad for this service. The UPRR has not yet given a commitment to participate because of concerns over main line rail service levels.

Although the $420 million SR-47 Expressway would not eliminate or shorten trips, it would provide an alternate route for trucks, leading to an estimated 6% reduction in truck volumes on the southern end of I-710.

A "virtual" container yard (VCY) is an Internet-based matching service for empty containers. An import container load is transported to a warehouse or distribution center. Once that container is unloaded it is typically hauled back empty to the port terminal. If that empty container met the needs of an exporter in the region, the container could be transported from the importer to the export location and then sent back loaded to the port, avoiding the necessity of dispatching a bobtail to the port to pick up an empty container to take to the exporter. A successful match and interchange is known as a "street turn."

The Port of Long Beach has signed a contract with eModal.com, LLC and International Asset Systems Limited, Inc. to implement the VCY. The work involves developing a web-based container-matching program so that truckers and steamship lines can see the availability of empty containers by type and location allowing a reduction in empty moves. Funding for the project has come from the Port of Long Beach, the Port of Los Angeles, and ACTA. The VCY for San Pedro Bay will be operational by April of 2006. A VCY is already in operation in the San Francisco Bay Area.

The preliminary figures in the table below show the impacts of all of the strategies combined on the I-710 relative to the baseline or "do-nothing" scenario. These figures assume that containerized cargo through both ports combined would reach 19.7 million and 44.7 million Twenty-foot Equivalent Units (TEUs) in 2010 and 2030, respectively.

Scenario	**I-710 Truck Trips (24 hrs.)**	**% Change from 2005 Base**
Base 2005	22,704	
Base 2010	27,009	+19.0%
Combined Scenario 2010	20,337	- 10.4%
Base 2030	65,238	+187.3%
Combined Scenario 2030	44,847	97.5%

Source: Port of Long Beach, Port of Los Angeles, Alameda Corridor Transportation Authority, study of methods to reduce truck traffic to/from the ports, 2005.

Without the implementation of the six strategies, truck traffic on I-710 is likely to triple by 2030, along with the projected tripling of cargo. With full implementation of the strategies, growth in truck traffic on I-710 could be kept to a doubling. The truck reduction strategies will help manage traffic congestion, but they will not obviate the need for freeway improvements. It is therefore critical that the planned widening of I-

710, including the addition of two dedicated truck lanes in each direction, move forward as rapidly as possible.

In addition to these truck trip management strategies, an "agile port" involving short haul rail service for military cargo has also been proposed. Beginning in 2006 a consortium of California State University campuses led by California State University Long Beach with Department of Defense financial support will conduct a series of agile port advanced logistics experiments. This will include a regional short haul rail network demonstration between the Ports of Los Angeles-Long Beach and the site of the former George Air Force Base in Victorville, CA in cooperation with the Southern California Logistics Airport (SCLA). The multi-year applied research program is called Strategic Mobility 21.

Reduction of free time is also helping to smooth out cargo flows. Effective July 1, 2005, the Ports of Los Angeles and Long Beach amended their tariffs to reduce free time from five days to four days for import containers and from seven days to six for export containers.[28] The Ports also amended the way free time is calculated. The clock used to start after the entire ship had been fully discharged. Now free time is calculated beginning on the day after the container is unloaded from the vessel as opposed to when the vessel has been fully discharged.

More and more 8,000+ TEU vessels are now entering service, and these mega-ships may take four days to fully unload, essentially giving some containers more free time under the old rules. This exacerbated the space problem leading to increased congestion within the terminal. Terminal operators are virtually unanimous in the opinion that free time reduction improves terminal efficiencies and is essential in the face of continuous volume growth and different terminal operating characteristics caused by larger vessels. If a container stays at the terminal for more than the free time allotted, the terminal is obligated under the port tariff to collect demurrage from the shipper or its agent.

The Long Beach Container Terminal (LBCT), in a letter to the Port of Long Beach dated June 13, 2005, said:

> The benefits of reduced free time are many. It is no mystery that the speed in which cargo transfers through a facility is what ultimately drives its capacity… We estimate that [the proposed reduction in free time] may potentially be enough for Long Beach Container Terminal to grow its business by another 25%…. The extended gate hour initiative to be launched in July

[28] The Port of Long Beach Board of Harbor Commissioners allowed for two exceptions, in response to concerns expressed by Los Angeles Customs Brokers & Freight Forwarders Association. Any container placed on hold specifically for a non-intrusive inspection (VACIS exam) or for a USDA bug inspection will have its free time commence when it is released. Only containers for those holds would receive the exception; all other Customs holds for any other reason would not enjoy this benefit. The Harbor Commission's resolution stated that the port may review at a later date whether the terminals are in fact collecting demurrage that is due from either the consignees or the steamship lines. If these audits reveal that the terminal operator is not collecting the demurrage from steamship lines stiff penalties could be imposed on the terminals. The California Association of Port Authorities (CAPA) would most likely review the proposal for penalties before Long Beach would independently act.

will further complement the free time tariff change by giving the shipping industry more gate operating hours to move their cargo.

With PierPass now in operation, shippers have nine shifts on weekdays (five day shifts and four night shifts) in which to pick up or deliver cargo, plus a Saturday day shift. This speeds cargo flows and reduces the incidence of demurrage charges.

In late 2005 a comprehensive goods movement planning effort began in the SCAG region known as the Multi-County Goods Movement Action Plan (MCGMAP). The project will include a thorough evaluation of logistics trends, goods movement demand and capacity, and potential infrastructure/operational solutions and financing mechanisms. Scheduled for completion by January 2007, the MCGMAP represents a joint effort of SCAG, Caltrans, the Counties of Los Angeles, Orange, Riverside, and San Bernardino. The study may be expanded to include Imperial County. The administrative lead for the project is the Los Angeles County Metropolitan Transportation Authority (LACMTA).

5.2 Port of Oakland

At the Port of Oakland, intermodal container volume is projected to reach 1.7 million lifts per year but the port's intermodal rail facilities and rail access infrastructure only allow for port intermodal operations to reach 1 million lifts per year.[29] Rail capacity is the Port of Oakland's primary constraint to growth. To address these concerns, the Port of Oakland has proposed:

- Improved rail access, both in the port area and outward to the rest of the country.

- Development of interregional rail serving California's Central Valley to shift container trips from truck to rail. These projects will relieve highway congestion and improve air quality. The port is developing the California Interregional Rail Intermodal System (CIRIS) in partnership with Caltrans, the San Joaquin Council of Governments, and the Port of Stockton. CIRIS is intended to serve one or more points in the Central Valley possibly including Sacramento, Stockton, Lathrop, Modesto, Fresno and Bakersfield. The City of Shafter in Kern County is taking the lead on another project to start a container shuttle train between the Port of Oakland and a logistics center development there. Shafter is building an intermodal rail facility at this site.

- Cooperative port relationships with other California ports (Sacramento, Humboldt, Richmond, Stockton, etc.) to more fully take advantage of the state's maritime resources and to create transportation economies.

The Port of Oakland is promoting the following major infrastructure projects:

[29] Jerry Bridges, Executive Director, Port of Oakland, testimony before Senate Subcommittee on California Ports and Goods Movement, Oakland, CA, November 15, 2005.

- 7th Street Grade Separation and Roadway Improvement. This is a critical junction at the heart of the port. The rail bridges at this location are too narrow and too low over the roadway and the roadway itself needs to be widened. An at-grade crossing at the site is often gridlocked, so the project calls for a grade separation. The cost of the project is estimated at $100 million. This project needs to move forward in order for the Port of Oakland's other access enhancement projects to be effective.

- Outer Harbor Intermodal Terminal (OHIT). This addition to the port's intermodal rail facilities at the site of the former Oakland Army Base will allow the port to increase intermodal container movements to projected levels. It is envisioned to be a green facility utilizing electric locomotives and yard equipment. The cost estimate is $88 million.

- Improvements to the Joint Intermodal Terminal at a cost of $12 million.

Beyond the Port of Oakland, the Metropolitan Transportation Commission (MTC) has proposed improvements to the I-80/I-680/SR-12 interchange at a cost of $706 million and an eastbound truck-climbing lane on I-580 for $65 million.

As explained by Jerry Bridges, Executive Director of the Port of Oakland:

> We've expanded our terminals and we've developed a major joint intermodal terminal for near dock rail access. However, we can't just look at port-specific rail enhancements and assume that others are going to deal with meeting the demand for rail capacity beyond our boundaries. We have to begin looking at the entire system over which our cargo moves. We need to work with our transportation partners to ensure that there is adequate capacity throughout the region, the state and beyond. I would warn that if we only focus on increasing immediate port capacity, we are only going to see the bottlenecks move downstream. If that is allowed to happen, then goods will at some point stop moving.[30]

The Port of Oakland believes there are numerous opportunities to take advantage of the statewide system of ports that exists in California. For example, the Port of Oakland is in discussions with the Port of Sacramento to mange its operation. This would ensure the continued viability of an important maritime asset. It could also provide Northern California with the option of developing short-haul barge or rail service between Sacramento and Oakland as economics become favorable. The legislature would have to approve a change in governance for the Port of Sacramento. Oakland also has discussed with the Port of Humboldt Bay the option of moving forest products from the North Coast region to the Port of Oakland via barge or rail.

[30] Jerry Bridges, Executive Director, Port of Oakland, testimony before Senate Subcommittee on California Ports and Goods Movement, Oakland, CA, November 15, 2005.

5.3 California's Smaller Ports

The smaller ports are also facing significant constraints to future growth. The biggest constraint facing the Port of Hueneme is land. With their "Strategic Commercial Development Plan", the Port hopes to acquire 677 acres of Navy land (out of a total 1,600 acres) to accommodate growing demand, particularly for automobile imports and automobile processing. The Port asserts this can be done without jeopardizing the Navy's mission and without impacting Navy-related civilian and military employment. To realize the Port of Hueneme's full potential this expansion should be allowed.

The Port of Hueneme is the only deep-water harbor between Los Angeles and the San Francisco Bay area and is the U.S. Port of Entry for California's central coast region. It serves international businesses and ocean carriers from the Pacific Rim and Europe.

The niche markets that Hueneme serves include: the import and export of automobiles, fresh fruit and produce, and forest products. The Port of Hueneme is the top seaport in the United States for citrus export and ranks among the top ten ports in the country for automobile and banana imports. Its position near the Santa Barbara Channel has also made the Port of Hueneme the primary support facility for the offshore oil industry in California's Central Coast area.

The Ventura County Transportation Commission (VCTC) and the Port of Hueneme are promoting the development of the Santa Paula Branch rail line as a feeder service across the high desert. The VCTC-owned Santa Paula Branch is a 32-mile rail line with limited rail service, including excursion trains. The County is planning track improvements to the line, including a reconnection to the rail line in Santa Clarita, and has studied the feasibility of installing fiber optic communication lines along the right-of-way.

At the Port of San Diego, cargo volume reached 2,957,006 metric tons in FY 2005, up 12.5% from the previous year and up 30% from FY 2001. With growing cargo volume, the port has seen a rise in community complaints about truck traffic on residential streets. In response, the Port of San Diego formed a Marine Terminal Community Committee to improve community relations while continuing to meet increased cargo demands. Two infrastructure projects emerged that meet these objectives: the Harbor Drive/Cesar E. Chavez Parkway grade separation (a $25 million project), and the Harbor Drive/32nd Street grade separation (a $75 million project). SAFETEA-LU included $400,000 for the Cesar Chavez project and $800,000 for the 32nd Street project. These projects will maximize cargo throughput by eliminating at-grade rail/truck crossings, increase I-5 mobility and reliability with trucks avoiding the downtown "S" curve, maximize the use of Harbor Drive to reduce I-5 congestion into South Bay, and mitigate community impacts by keeping trucks off residential streets. Residents and tenants support the projects.

The Port of Humboldt Bay has proposed a "short-sea" barge shuttle service to the Port of Oakland. This would require modernization of the Redwood Dock Marine Terminal. The Port has also proposed the reestablishment of freight rail service on the state-owned

North Coast Railroad Authority (NCRA). Funding this project would reopen the entire 300-mile line from the community of Fairhaven on the Port of Humboldt Bay south to Lombard where the line connects with the national rail system. Other projects of importance to the Port of Humboldt Bay are listed in Appendix A.

Santa Maria Shipping has proposed a short-sea-shipping service that would ferry containers between the ports of Oakland and Stockton on 300-TEU ships. One ship would take 150 trucks off the freeway each way. It is not yet known whether this service could compete with rail or trucking.[31]

In 2004, the Port of Stockton handled 2,596,852 metric tons of cargo – 2,025,336 metric tons of inbound cargo and 571,517 metric tons outbound cargo. Inbound commodities include cement, fertilizer, molasses, anhydrous ammonia, steel products, and other products. Outbound commodities include sulfur, rice, wheat, scrap steel, and other commodities. The port has proposed a $15 million upgrade to Daggett Road to improve access to Rough and Ready Island. The port received $7.2 million for this project from SAFETEA-LU.

The Port of Benicia, located at the head of San Francisco Bay, is a privately operated port with a concentration on automobile imports. The Port of Richmond, also in the Bay Area, primarily handles petroleum bulk cargo. However, the Port of Richmond has expanded its dry bulk, break-bulk, and containerized cargo handling capabilities and has increased its automobile processing facilities.

The Port of Sacramento has proposed a $15-$17 million channel deepening project, and other supporting projects including warehousing and deferred maintenance. Cargo types handled by Port of Sacramento include rice, safflower seed, wood chips, news print, sand, aggregate and decorative rock, logs, lumber, fiberboard, clay, fertilizer, wheat, and project cargo.

The Port of Redwood City, in the South San Francisco Bay, provides berths for bulk, liquid bulk and project cargoes. The port is working with the Redwood City Dredging Coalition, which succeeded in obtaining nearly $5 million in dredge funds for the port. Maintenance dredging to the authorized 30 feet is nearly complete as of December 2005. The Coalition is seeking additional funds to deepen the channel to 35 feet. The port's goal is to complete the dredging project within four years. The port also intends to revamp its Wharves 1 and 2 in order to modernize and make more efficient the area used by two major tenants. The port hopes to double its tonnage throughput from two million to four million tons by the year 2020. The port is also investigating possibilities for Short Sea Shipping to reduce highway and rail congestion as well as to diversify the port's sources of revenue. The Port of Redwood City is also promoting construction of a new Woodside Road/Seaport Boulevard interchange at U.S. Highway 101, a critical bottleneck named in nearly all environmental studies regarding new projects at the Port of Redwood City.

[31] The Cunningham Report, November 21, 2005

In 2004, the Port of San Francisco handled over 225,000 tons of break bulk cargo, 1.49 million tons of bulk sand and aggregate, as well as 133,000 metric tons of liquid bulk. As of January 1, 2005, the Port of San Francisco no longer handles container cargo. The port can only handle the smaller carriers as its water depth can only be dredged to a maximum of 39 to 40 feet Mean Lower Low Water (MLLW), and its cranes are only sufficient for the smaller-sized vessels. Additionally, railroad tunnels leading into San Francisco are not able to clear double stack container cars. The port is seeking approximately $50 million to enlarge the railroad tunnels for double stack clearance, to dredge to at least 45 feet MLLW, and to add new cranes.

5.4 Labor Availability and Terminal Productivity

It has been said that you can't manage what you can't measure. Thus, it is critical that ports strive to measure productivity and labor availability, identify sources of inefficiency and delay, and develop specific programs to make better use of existing transportation assets.

For example, it will be important to gain a better understanding of the severity of the looming shortage in truck drivers. Many short haul truckers have left the business.

> No one knows exactly how many drivers have stopped working the ports. An informal survey by the Marine Exchange of Southern California, which tracks ship movements at the ports, found that hundreds had thrown in the towel during the worst of the congestion in 2004…Bob Curry, president of California Cartage Co. of Wilmington, said that he employed two full-time employees who do nothing but recruit drivers to maintain a pool large enough to keep cargo rolling, something he would never have dreamed of having to do just a few years ago. More disturbing, Curry said, is that the drivers he managed to find all come from other trucking companies. "No one is going out and buying a truck with the idea of working at the ports," Curry said.[32]

In a white paper published in May 2005, the Waterfront Coalition recognized the problem of driver supply, and recommended that harbor trucking be made a profitable business:

> Harbor trucking relies on "owner-operators" who own their own tractors and who contract with trucking companies. These independents are usually paid by the trip. Consequently, road and terminal congestion, rising fuel costs, government regulation of hours of service, and air pollution emissions have all conspired to make harbor trucking increasingly non-economic.
>
> Much attention has been focused on the difficulties truckers face within marine terminals. When marine terminal "turn times" average as much as an hour or more, this has an immediate impact on trucker economics and must be addressed.

[32] Los Angeles Times, November 21, 2005, p. B-1.

> Marine terminal wait times, however, are only part of the problem. When truckers have to deal with congested roads and highways, it takes a toll.
>
> The inability of small, owner operator truckers to make a sufficient number of "turns" (to the port and back to a warehouse or container yard) is one of the principal reasons that short-haul truckers – who get paid by the trip – are leaving the industry in large numbers.[33]

With respect to longshore labor, it appears that the vessel and terminal congestion in the Los Angeles and Long Beach harbors in 2004 has been avoided in 2005. Causes of the 2004 congestion included:

- The Pacific Maritime Association (PMA) underestimated and did not anticipate the impact that shortages in rail capacity and truck drivers would have on handling the increased container volume growth.
- There was a 24% increase in container throughput from 2003 to 2004 at the Port of Long Beach (1% at the Port of Los Angeles).
- There were rail labor and equipment shortages causing a backup at the ports.
- There was a 64% increase in on-dock rail volume at the Port of Long Beach from 2003 to 2004 (1% at the Port of Los Angeles).
- Labor was allocated to terminal and rail operations before vessels.

Remedies to the vessel and terminal congestion have included:

- The PMA and the International Longshore and Warehouse Union (ILWU) have added labor, including 5,000 new identified casuals, and they have elevated 1,750 casuals to registered status.
- The PMA has improved their projections and monitoring of labor needs.
- Progress is being made in installing new technology to smooth traffic flow, such as Optical Character Recognition (OCR) and Radio Frequency Identification (RFID) at gates and on cranes.
- As discussed earlier, the Ports of Long Beach and Los Angeles have 1) reduced the amount of "free time" that containers can be stored in port terminals without incurring demurrage and storage charges, and 2) started free time on the day that each container is unloaded and not on the day that the entire ship finishes discharging. These changes have helped to even out the flow of cargo at terminals, reducing the bunching of trucks. This is particularly important for managing the containers discharged from larger vessels.
- PierPass has spread the volume of cargo over more hours and more days and has given cargo owners more time to retrieve their containers before free time expires.
- Railroads have added labor and equipment. Delays to intermodal rail shipments outside of the harbor area, however, have been reported in recent weeks.

[33] The Waterfront Coalition, National Marine Container Transportation System: A Call to Action, May 2005, p. 7.

Productivity at container terminals is often measured is terms of TEUs per acre per year. For example, the average productivity at the Port of Long Beach is 5,174 TEUS per acre per year, based on 6,644,009 TEUs in federal fiscal year 2005, and 1,284 gross acres for its container terminals. For any one terminal the capacity is the lesser of berth capacity and backland capacity. The Port of Long Beach has predicted that by 2020, terminal capacity will reach 20,665,000 TEUs per year with 1,882 gross acres, resulting in a maximum productivity of 10,980 TEUs per acre per year.[34] Capacity is a function of many variables including berth length, vessel size mix, backland acreage, dwell times for containers, stack height (number of containers stacked), percent wheeled, mix of cargo types (import, export, local, intermodal), and other factors. For example, generic inputs to the terminal capacity modeling for 2020 are shown below:

Container Type	Mix	Mean Dwell Time (Days)	Percent Wheeled	Mean Stack Height
Import Local Load	29%	4.0	10%	3.5
Import On-Dock Intermodal Load	15%	2.0	10%	3.5
Import Off-Dock Intermodal Load	10%	1.5	10%	3.5
Export Local Load	10%	6.0	5%	3.5
Export On-Dock Intermodal Load	6%	6.0	0%	3.5
Export Off-Dock Intermodal Load	3%	6.0	10%	3.5
Import Empty	0%	n/a	n/a	5.5
Export Empty	27%	7.0	5%	5.5

Source: Port of Long Beach

The capacity modeling implicitly assumes that sufficient longshore labor will be available. Labor plays a critical role in terminal productivity. The following operational changes for improved productivity should be considered, recognizing that these will require in-depth discussion and resolution with ILWU officials:

- Through technology, allow workers to be dispatched directly to the job site as opposed to reporting to the dispatch hall for job selection.
- Allow employers to hire a greater percentage of their terminal employees as "steady" workers as opposed to the large numbers of workers that are dispatched daily to regularly available jobs. Worker familiarity and experience with a given terminal can in itself improve productivity.
- Stagger lunch hours to maximize terminal operations.

Another strategy that could increase productivity is to institute a universal port-wide truck appointment system. If appointments were uniformly applied it would go along way to smooth out traffic flow over the day.

[34] Port of Long Beach Planning Department, based on terminal capacity protocols developed by Moffatt & Nichol, Engineers, and JWD Group, 2005.

> An appointment system will only be viable if it is developed with consistency on a port-wide basis and truckers have the ability to book appointments at any terminal facility operating at any given port complex. In the past, terminal operators have viewed appointment systems as a competitive issue, with the result that there is no single portal for trucker appointments at any U.S. port….The Waterfront Coalition calls on terminal operators to…explore the use of federal anti-trust immunity to cooperate in developing port-wide appointment systems.[35]

A common chassis pool could also improve productivity and turn times within terminals. Chassis pools are currently in operation at the Virginia Port Authority and at Maher Terminal in Port Elizabeth, NJ. When a trucker has to drop off a container belonging to shipping line A but has to pick up another container belonging to shipping line B, the trucker has to change chassis, a process known as "flipping". With a "gray" chassis pool, chassis flipping is unnecessary because all of the chassis are under common management. Chassis pools can reduce the number of chassis required and thus reduce the amount of land needed for storage. Chassis pools can also allow standardized maintenance and repair procedures, leading to improved chassis quality and safety. The Waterfront Coalition has called for port-wide or region-wide chassis pools, leading ultimately to a nationwide chassis pool.[36] However, some shipping lines have invested in Global Positioning System (GPS) tags for chassis, given them a potential competitive advantage. These lines could be opposed to a chassis pool.

Another operational strategy promoted by the Waterfront Coalition is to spread out vessel sailings and arrivals in the trans-Pacific trade to make maximum use of terminal capacity. Currently, there is a clear bias toward eastbound weekend sailings. This means that vessels are likely to arrive at West Coast ports on Thursday, Friday or Saturday. This bunching of arrivals causes congestion for terminals, trucking companies and railroads. Shippers would have to make changes in production schedules, but the outcome could be significantly faster transit times.[37]

6. Environmental Enhancements

Efforts to expand port area infrastructure must be accompanied by environmental enhancements. Substantial effort has been made in identifying goods movement environmental mitigation strategies. A detailed list of emission reduction strategies is shown in Appendices C and D.

The following broad emission-reduction strategies must be pursued:

- cleaner fuels, scrubbers, after-treatment, and internal engine modifications for marine vessel main engines,
- clean fuels, cold ironing or add-on controls for vessel auxiliary engines,

[35] The Waterfront Coalition, National Marine Container Transportation System, May 2005, p. 11.
[36] Ibid, p. 9.
[37] Ibid, p.11.

- clean diesel and alternative fueled switcher locomotives and cargo handling equipment at rail yards and docks,
- lower emission line-haul locomotives, and
- truck modernization and fleet turnover programs.

The ports are committed to reducing emissions. The ports need to be recognized for the significant progress they have already made in combating pollution. The Port of Oakland's Clean Air Program includes initiatives to reduce emissions, including a truck re-powering program providing cash incentives to truckers for replacing engines with newer cleaner engines. The Port of Long Beach has adopted an aggressive and comprehensive Green Port Policy dedicated to reducing the harmful effects of port-related operations. In Los Angeles, the No Net Increase (NNI) Task Force compiled a list of 68 measures to reduce emissions. The Port of Los Angeles has recently refined this list and now recommends an emphasis on alternative fuels such as liquefied natural gas, hydrogen, and biofuels. Some of the measures in the NNI plan are clearly within the port's control; some are not. This is why it is essential for the California Air Resources Board, the U.S. Environmental Protection Agency, and the International Maritime Organization (IMO) to act on those measures that only they have authority to implement. These rules should provide an even playing field for all involved.

6.1 The Port of Long Beach Green Port Policy

The Port of Long Beach's Green Port Policy calls for a reduction in emissions per ton of cargo handled. The Port has established an initial $100 million reserve fund to meet the objectives of the Green Port Policy.

Adopted in January 2005, the Green Port Policy established the following guidelines for port operations and future development:

- Protect the community from the harmful environmental impacts of port operations.
- Distinguish the port as a world leader in environmental stewardship.
- Employ the best technology to avoid and reduce environmental impacts.
- Promote sustainability in all aspects of port operations and development.
- Engage and educate the community about port environmental programs.

Within its authority as a landlord through new or renegotiated leases, the Port of Long Beach is implementing aggressive programs to eliminate or significantly reduce harmful air emissions. The port's strategies include:

- For vessels at berth: cold-ironing, exhaust control technologies, cleaner fuels and other advanced technologies.
- For cargo-handling equipment: accelerated fleet replacement, clean alternative diesel fuels, alternative fuels and new technologies such as exhaust cleanup devices.

- For locomotives: accelerated fleet replacement, hybrid technologies, alternative fuels and improved operating practices such as idling limitation devices.
- For trucks: accelerated fleet replacement, new aftermarket technologies, and operational improvements such as PierPASS' Offpeak gate program.

Please refer to Appendix C for details on the Port of Long Beach's emissions reduction program.

Because ships are a major source of emissions, one of the strategies promoted in the Green Port Policy is a Sulfur Emission Control Area (SECA). The SECA would require ships to use 1.5% sulfur fuel (15,000 parts per million). Lowering the sulfur content of ship fuel has significant benefits in terms of PM and NOx emissions as well as SOx. California can also play an important role in promoting the adoption by the U.S. Senate of Annex VI of the International Convention for the Prevention of Marine Pollution From Ships, 1973, as Modified by the Protocol of 1978 (MARPOL).[38] This is the international treaty regulating emissions from ships. The IMO cannot adopt a SECA for the West Coast or for North America until the U.S. adopts Annex VI. Starting in May 2006 there will be a SECA in effect for the Baltic Sea. The SECA will be extended to the North Sea and English Channel in 2007.

Many of the programs included in the Green Port Policy are in-place and currently generating "green" benefits. The Port of Long Beach is developing a fully integrated, resource-loaded master schedule, which will continue to evolve as the number of environmental programs expands. The port provides quarterly progress reports to the Long Beach City Council and the Board of Harbor Commissioners including details on each program's goals/benefits and status of implementation. The port has also identified specific metrics so that progress can be quantified and tracked over time. In order to ensure that the policy is implemented throughout the terminals, the port's leasing policy will be amended. As stated in the port's White Paper on the Green Port Policy,

[38] http://www.imo.org/home.asp

From President Bush's message on May 15, 2003 to the U.S. Senate for the advice and consent of the Senate to the ratification of Annex VI (http://www.whitehouse.gov/news/releases/2003/05/20030515-12.html) "The MARPOL Convention is the global agreement to control pollution from ships. MARPOL Annex VI regulates the emission into the atmosphere of specified pollutants from ships. It complements the other annexes to the MARPOL Convention, which relate to the transport of oil (Annex I), harmful substances carried in bulk (Annex II), harmful substances in packaged form (Annex III), ship-generated sewage (Annex IV) and garbage (Annex V). The United States is a party to all of these annexes with the exception of Annex VI.

MARPOL Annex VI regulates the prevention of air pollution from ships by limiting the discharge of nitrogen oxides from large marine diesel engines, governing the sulfur content of marine diesel fuel, prohibiting the emission of ozone-depleting substances, regulating the emission of volatile organic compounds during the transfer of cargoes between tankers and terminals, setting standards for shipboard incinerators and fuel oil quality, and establishing requirements for platforms and drilling rigs at sea."

"Negotiating with tenants requires flexibility; however, the leasing policy must have as a key agenda the 'greening' of the port."[39]

CALMITSAC believes that investing in cleaner trucks and working to reduce truck trips would be the quickest and most tangible methods to achieve meaningful emissions reductions. Accordingly, one program that deserves special recognition is the Gateway Cities Council of Governments' Clean Air Program.[40] In operation since September 2002, the Clean Air Program's main focus is to reduce emissions from in-use heavy-duty vehicles (HDVs) in the Gateway Cities sub-region and around the Port of Los Angeles and Port of Long Beach. The Program has received national attention and awards for efficiency in achieving a significant reduction in harmful emissions from in-use heavy-duty diesel vehicles and equipment.

The Clean Air Program has two primary components – The Fleet Modernization Program (FMP) and the Port of Long Beach Diesel Emissions Reduction Program (DERP). The FMP provides an average grant award of $25,000 to replace 1986 and older diesel HDVs with a 1999 or newer, cleaner burning model. The older trucks are scrapped and never used again. The Program's long-term goal is to replace 3,000 existing HDVs, or about a third of the pre-1987 truck fleet in Los Angeles County at an estimated cost of about $85 million. This would result in NOx and PM reductions of an estimated 1,650 and 360 tons per year, respectively, for each of the five years that are assumed for the lives of the grant awards.

To date, the program has spent about $8 million to replace approximately 350 trucks, resulting in significant, immediate decreases in both diesel PM and NOx.

The Port of Los Angeles (POLA) wants to change the emphasis of the Gateway Cities program from newer diesel trucks to Liquefied Natural Gas (LNG) trucks. (See details of the POLA plan below.) Thus, one important task for the port community will be to achieve consensus on whether to maintain the emphasis on cleaner diesel trucks, or switch to LNG, or use a combination of LNG and cleaner diesel engines.

As part of the Gateway Cities Clean Air Program, the Port of Long Beach has taken a leadership role by facilitating efforts to install new emissions reduction technology on off-road heavy-duty vehicles operated within port boundaries. This Diesel Emissions Reduction Program introduces "clean diesel technology" to port terminal operators by retrofitting their cargo-handling equipment with devices such as diesel oxidation catalysts (DOCs), which replace mufflers and can provide cost-effective emissions reductions. On nearly 200 off-road HDVs, Port of Long Beach tenants are using a DOC and emulsified diesel fuel (a diesel-water blend) combination that has been verified by the California Air Resources Board to provide a 50% reduction in diesel PM emissions and a 20% reduction in NOx emissions. On approximately 400 off-road pieces of cargo-handling equipment, POLB tenants are using a DOC combined with a crankcase emissions filtration system that has been verified by CARB to reduce diesel particulate emissions by 25% (actual

[39] Long Beach Harbor Department, Green Port Policy – "White Paper", August 15, 2005.
[40] The Gateway Cities Council of Governments consists of 27 cities in southeast Los Angeles County.

reductions are believed to be higher). Of those, approximately 100 are fueled with an ethanol-blended diesel fuel verified by CARB to further reduce PM emissions by 20%.

The Port of Long Beach's efforts through the Diesel Emission Reduction Program, coupled with the efforts of terminal operators to modernize equipment and transition to cleaner on-road equipment has resulted in total cargo-handling equipment emissions declining. From 2002 to 2005, cargo-handling NOx emissions declined by approximately 570 tons per year and cargo-handling PM emissions by approximately 70 tons per year.

The Port of Long Beach, through its Maritime Goods Movement Coalition, has proposed the "Goods Movement Attainment Plan." Current members of the Coalition include representatives of the Port of Long Beach, terminal operators and fuel and energy providers. (The Port of Los Angeles is not yet a member.) The Coalition seeks to design an integrated, market-based program to reduce goods-movement related emissions in a cost-effective manner. CALMITSAC recommends that the market-based strategy be given serious consideration.

As initially envisioned, the Goods Movement Attainment Plan would set phased performance targets designed to enable the South Coast Air Basin to attain the national ozone standard as required by 2021 (or 2024)[41] and the fine particulate standard by 2015. To achieve these air quality goals at the lowest cost, the plan would permit regulated sources to design solutions tailored to their own operations. The plan would also allow sources to generate and trade emission reduction credits to help finance emission reductions and to reward early actions. The plan would also include an investment fund financed by sources unable to meet the performance targets that would be invested in pollution control.

Under a market program, regulated sources can select the most cost-effective means of reducing emissions. They also can tailor controls to match their own unique operations in ways that often cannot be anticipated by regulators. Furthermore, under a market program, sources can time their expenditures to coincide with other investments. The market would also be structured to provide incentives for emission reductions from sources closest to communities exposed to disproportionately high health risk from goods movement sources by only allowing the generation of credits (i.e., achieving emission reductions) from those sources. A market program enhances environmental effectiveness by creating economic value for reducing emissions. In this circumstance, it also creates an opportunity to overcome potential legal impediments to regulation.[42]

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[41] EPA designates areas that do not meet the National Ambient Air Quality Standards (NAAQS) as "nonattainment" for that pollutant. Based on current ozone readings in the South Coast Air Basin, EPA has designated the South Coast Air Basin as a "Severe-17" nonattainment area. Under EPA's regulations, the South Coast Air Basin has until the year 2021 (or 17 years from the June 15, 2004 effective designation date) to attain the current ozone standard. See 69 Fed. Reg. 23858, 23863, 23882 (April 30, 2004); 40 CFR § 81.305. This deadline would become 2024 if the region were designated an "Extreme" area, as currently contemplated by the SCAQMD.

[42] Robert Wyman, Latham & Watkins LLP, "Maritime Goods Movement Coalition," November 22, 2005

6.2 The Port of Los Angeles Clean Air Program

The Port of Los Angeles has recently revised its emissions reduction strategy. At the Los Angeles Harbor Commission meeting of November 21, 2005, port staff unveiled a new proposal. As reported by The Cunningham Report:

> The Port of Los Angeles announced a … clean-air plan last week that would fast-track the phase-out of diesel yard handling equipment, discontinue subsidizing the clean-diesel fuel program, provide terminals with incentives to switch to alternative-fueled equipment, and promote the use of cleaner fuels by ships….
>
> The plan considers the 68 measures identified, but never agreed upon, by the No-Net-Increase Task Force under former Mayor Jim Hahn. Some of the measures were rejected and some new ones added into the port's new clean air plan. The rejected measures had to do with making diesel equipment cleaner and subsidizing clean-burning diesel fuel. The plan relies strongly on switching to alternative fuels such as liquefied natural gas, hydrogen, and biofuels.[43]

Details of the proposed Port of Los Angeles plan are listed in Appendix C.

6.3 The Port of Oakland Vision 2000 Maritime Development Program

The Port of Oakland's Vision 2000 Maritime Development Program committed $85 million to mitigate the impacts of cargo facility development. Nearly $10 million was designated for an Air Quality Mitigation Program, featuring measures that included re-powering and modifications to all of the its terminal operating equipment and re-powering local AC Transit buses for cleaner operations. As part of its Maritime Air Quality Program, the port will allocate up to $2 million in incentive funding to help owners of heavy-duty trucks that haul shipping containers in the port area. Port officials estimate that there will be approximately 80 qualifying truck owners who will be eligible for up to $25,000 each in incentive funding to replace their 1986 or older truck with a 1999 or newer truck.

As part of the Vision 2000 Program, a 40-acre shoreline park has been constructed, designed with extensive community input and now provides high quality access to San Francisco Bay. The port's dredging program features almost 100% beneficial reuse of clean dredge spoils to create new shallow water habitats on San Francisco Bay. These innovative programs are not free. Once again, a growing revenue stream is essential to maintain these programs and develop new ways to mitigate the impacts of port and related transportation activities.

The Port of Oakland is working with regional government in Northern California to develop alternatives to trucking containers over the highway. These efforts are designed

[43] The Cunningham Report, November 28, 2005

to reduce vehicle emissions and congestion associated with moving containers within the region. In order to provide a rail alternative to trucking, more capacity is needed in both the existing main line rail system and the rail facilities at the port. Programs such as the CIRIS short-haul rail project can have a positive impact on the environment.[44]

6.4 The State Goods Movement Action Plan and the California Air Resources Board Emission Reduction Plan

The Schwarzenegger Administration's Goods Movement Working Group – created at the end of 2004 – has spent the past year developing a statewide plan for goods movement capacity expansion, environmental and community mitigation, and goods movement-related homeland security and public safety enhancements. Governor Schwarzenegger has stated that improving the movement of goods in California is among his highest priorities. The Working Group, co-chaired by the Agency Secretaries from the Business, Transportation & Housing Agency (BT&H) and the California Environmental Protection Agency (Cal/EPA), was established on the premise that "The state's economy and quality of life depend upon the efficient, safe delivery of goods to and from our ports and borders. At the same time, the environmental impacts from goods movement activities must be reduced to ensure protection of public health."[45]

The Plan is being developed in two phases with a broad cross-section of stakeholders, including industry, environmental and community public health groups, and governmental organizations. Phase 1 of the Plan, entitled Goods Movement Action Plan (GMAP), Phase I: Foundations,[46] was released in September 2005. It identifies growth trends, illustrates four "port-to-border" transportation corridors, inventories infrastructure projects being planned or underway, estimates environmental and community impacts, describes general mitigation approaches, and raises key aspects of public safety and homeland security issues.

The Phase II Plan, being developed by an Integrating Working Group, will address capacity expansion, environmental and community mitigation, and goods movement-related homeland security and public safety enhancement. CALMITSAC is represented on the Integrating Working Group.

GMAP development includes the input of five supporting working groups and a separate CARB Emission Reduction Plan development effort described below. The five working groups are:

1) Infrastructure
2) Innovative Finance and Alternative Funding
3) Community Impact Mitigation and Workforce Development
4) Public Health and Environmental Mitigation, and

[44] Port of Oakland, Strategic Rail Priorities, July 8, 2005
[45] BT&H/Cal/EPA, "Policy Statement on Goods Movement in California," January 27, 2005. http://www.arb.ca.gov/gmp/policy.pdf.
[46] BT&H/Cal/EPA, Goods Movement Action Plan, September 2005.

5) Homeland Security and Public Safety.

BT&H and Cal/EPA released a Progress Report on the Phase II Plan on December 20, 2005. The report incorporates input from each of the working groups – as well as from the CARB Emission Reduction Plan – to provide a framework for future actions the Governor and the legislature can take to enhance California's position as a goods movement world leader. There will be additional opportunities for public comment and revisions during 2006.[47]

The CARB's Draft Emission Reduction Plan for Ports and International Goods Movement in California[48] identifies specific near-term measures and longer-term mitigation approaches that need further work prior to adoption and implementation. The Plan in large part builds on the efforts of the major ports in the state, which – as described above – are moving to mitigate environmental concerns associated with goods movement.

The CARB plan provides a goods movement public health assessment, emission inventory, emission reduction targets and strategies, and an assessment of benefits, costs, and funding needs. The plan includes proposed control measures for marine vessels (commercial harbor craft and ocean-going vessels), locomotives, on-road trucks, and off-road equipment used at ports and rail yards. Since authority over port-related sources is not concentrated at any single level of government, the plan also discusses the need for local, state, federal and international cooperation – particularly with respect to transforming the marine vessel fleet to cleaner technology and lower emitting fuels. The goal of the plan is to cut port-related emissions back to 2001 levels no later than 2010, and to continuously reduce emissions thereafter until ambient air quality standards are met and community impacts are mitigated. The plan also includes strategies to reduce public health risk from port-related diesel emissions by about 65% by 2020. Appendix D provides a list of strategies identified in the CARB report to reduce emissions from ports and international goods movement operations.

7. Port and Maritime Security

After 9/11, CALMITSAC's Southern California affiliate, the Southern California Marine Transportation System Advisory Council (SOCAL-MTSAC), developed port security protocols that were promptly implemented and allowed the ports to stay open and productive. SOCAL-MTSAC drafted the nation's first vessel and marine terminal port security guidelines, which have now been embraced by all U.S. Pacific Ocean ports in California, Oregon, Washington, Hawaii, Alaska, and Guam.

California accounts for 40% of the containerized waterborne commerce in the U.S, but in Round 4 (FY 2004) of federal port security grants, California received only $5,925,377 or

[47] http://www.arb.ca.gov/gmp/docs/p2_gmap_draft_final_122005.pdf

[48] California Air Resources Board, Draft Emission Reduction Plan for Ports and International Goods Movement in California, December 1, 2005.

less than 12% of the $49,429,867 in federal port security grants distributed nationally.[49] In Round 5 (FY 2005) California received $33,599,417, and doubled its share to about 24% of the national total of $141,969,968.[50] This represents a significant improvement, as there was a greater attempt in 2005 to set priorities on a more rational basis. Texas received $54,094,294, or 38% of the port security grant funding in Round 5. Houston, by itself, received $35,325,116, or 25% of the national total. Overall, California received about 19% of the national total for all five rounds of port security grants, and the San Pedro Bay Ports received about 11% of the total, including requests by private industry.

"A priority for the Port Security Grant (PSG) Program in FY 2005 is a risk-based distribution of funding…. The FY 2005 program will direct all available funds to the nation's highest risk ports…"[51]

California needs a prioritized list of infrastructure projects and port security projects. Ports also need to conduct contingency planning for recovering from a major incident. CALMITSAC has reached out to key homeland security agencies, including the California Office of Homeland Security, the U.S. Coast Guard, Bureau of Customs and Border Protection, and others to solicit their support and participation.

In 2006, CALMITSAC intends to conduct a port security and consequence management survey. The purpose of the survey is to provide a snapshot view of the current status, organizational structure and effectiveness of port security and consequence management efforts in the State of California, including an assessment of vulnerabilities, capability gaps, level of training, exercise plans and procedures. Based on the results of the survey, CALMITSAC would offer recommendations on how best to foster improved port security statewide.

In response to congressional enactment of Section 8 of the Coast Guard and Maritime Transportation Act of 2004 (Public Law 108-293), six campuses of the California State University system formed the Pacific Area Port Security Center Consortium (PAPSCON) on November 1, 2004. The consortium is led by the California Maritime Academy (CMA) and chaired by its President, William B. Eisenhardt, Ph.D. The consortium intends to conduct pilot projects in port and intermodal security at West Coast seaports in cooperation with the Bureau of Customs and Border Patrol, the U.S. Coast Guard and the Transportation Security Administration. Under a strategic plan, the work would address risk-based vulnerabilities and capability gaps identified in the CALMITSAC port security and consequence management survey.

After 9/11, experts concluded that securing maritime transportation should not rely on a single solution, such as increasing the number of container inspections, but rather on a "layered" approach with multiple lines of defense from the origin to the final destination

[49] https://www.portsecuritygrants.dottsa.net/TSAdotnet/default.aspx
[50] Los Angeles: $11,447,716.86; Long Beach: $12,768,629; Oakland: $2,887,252; San Diego: $6,495,819.
[51] https://www.portsecuritygrants.dottsa.net/TSAdotnet/TSA4/Documents/PSGP_factsheet.pdf

of a shipment.[52] The ports and terminals are working hard to increase surveillance, fencing, lighting, training, and patrols. The Ports of Long Beach and Los Angeles and the Alameda Corridor Transportation Authority are implementing the Advanced Transportation Management, Information and Security (ATMIS) System which will include closed circuit television surveillance, changeable message signs, and queue detectors to help manage traffic flow and to increase security. The $7.8 million program is projected to be operational by November of 2008.

Federal agencies are responsible for other important layers of defense. The following federal agencies have critical roles with respect to port security: the Coast Guard, the Bureau of Customs and Border Protection (CBP), and the Transportation Security Administration (TSA), all of which are housed in the Department of Homeland Security (DHS), and the Maritime Administration (MARAD).

Among its many responsibilities, the Coast Guard evaluates, boards, and inspects commercial ships as they approach U.S. waters. In each port area, the Captain of the Port (COTP) is the Coast Guard officer responsible for the security and safety of vessels and waterways. The Coast Guard has instituted new reporting requirements for ships entering and leaving U.S. ports. The Notice of Arrival (NOA) rule has been extended from 24 hours to 96 hours. The NOA includes detailed data on the crew, passengers, cargo and the vessel itself. The Coast Guard has developed the concept of Maritime Domain Awareness (MDA), which involves a risk-management approach of combining intelligence from a variety of sources to provide a more complete picture of potential maritime security threats. As part of the MDA effort, the Coast Guard is expanding the Automatic Identification System (AIS), a vessel tracking system to monitor ship traffic in harbors.

CBP is responsible for inspecting cargoes, including containers, and for examining and inspecting ship crews and cruise ship passengers arriving in U.S. ports from any foreign port. One layer of defense used by CBP is the mobile Vehicle and Cargo Inspection System (VACIS), which consists of a truck-mounted, non-intrusive gamma ray imaging system that produces radiographic images to evaluate the contents of trucks, containers, cargo, and passenger vehicles. VACIS exams help to determine the possible presence of many types of contraband. With VACIS, CBP is able to verify that the goods declared via the Automated Manifest System (AMS) are in fact in the container. (Example: the AMS lists 400 boxes of garments but the VACIS exam reveals 3 large cylinders in the container).

Another important layer of defense employed by CBP is the Radiation Portal Monitor (RPM). An RPM provides CBP with a passive, non-intrusive means to screen containers for the presence of nuclear and radiological materials. An RPM can detect various types of radiation emanating from nuclear devices, dirty bombs, special nuclear materials, and natural sources and isotopes commonly used in medicine and industry.

[52] Congressional Research Service, Port and Maritime Security: Background and Issues for Congress, updated May 27, 2005. This report provides an excellent overview of port and maritime security, and was the source of much of the information reported here.

CBP has implemented two very important counter-terrorism programs: the Container Security Initiative (CSI) and the Customs-Trade Partnership Against Terrorism (C-TPAT). CSI consists of four core elements:

1) Using intelligence and automated information to identify and target containers that pose a risk for terrorism.

2) Pre-screening those containers that pose a risk at the port of departure before they arrive at U.S. ports.

3) Using detection technology to quickly pre-screen containers that pose a risk.

4) Using smarter, tamper-evident containers.

Under the CSI, CBP pre-screens U.S.-bound containers at selected foreign ports. As of October 2002, information about an ocean shipment must be transmitted electronically to CBP 24 hours before cargo is loaded at a foreign port onto a U.S.-bound vessel. Previously, ocean carriers did not have to submit this information until the ship arrived in the U.S. via a paper manifest system. CBP uses a system known as the Automated Targeting System (ATS) to identify high-risk containers for physical inspection. These are containers that may involve smuggling or pose a potential terrorism threat. The CBP is now requiring more detailed information in order to minimize the need for examination holds in U.S. ports. CBP created the 24-hour rule to allow targeting of "suspicious cargo" and a possible "no load" order at the foreign port of lading. By "extending the borders," CBP minimizes the risk of a dirty bomb or other device detonating in U.S. ports.

C-TPAT was initiated in April of 2002, and offers importers expedited processing of cargo if they comply with CBP guidelines for securing their entire supply chain. To be a partner in C-TPAT, an importer must complete a detailed questionnaire on its security practices, list all the partners in its supply chain, and confirm that these other firms also have security programs in place. If certified by CBP, importers may benefit from a reduced number of cargo inspections.

The U.S. General Accounting Office (GAO) evaluated how the CSI and C-TPAT programs have been implemented and identified a number of problems needing correction.[53] The GAO found that importers participating in C-TPAT were benefiting from reduced scrutiny of their cargo after they had been certified into the program but before CBP had validated that they were in fact carrying out the promised security measures. GAO also found that nearly one-third of the containers that CBP had targeted for inspection at overseas loading ports – including those labeled "high-risk" – were not actually inspected.[54]

The TSA's responsibility was originally limited to aviation security, but now extends to all modes of transportation, both cargo and passenger. Together with the CBP, TSA

[53] GAO, Homeland Security: Key Cargo Security Programs Can Be Improved, GAO-05-466T, May 26, 2005. http://www.gao.gov/new.items/d05466t.pdf
[54] DailyBreeze.com, June 3rd, 2005

conducts the Operation Safe Commerce (OSC) pilot project, which began in November 2002. OSC attempts to verify the contents of containers at their point of origin, ensure the physical integrity of the containers in transit, and track their movement from origin to destination over all modes of transportation. The pilot program includes shipments through the three largest U.S. load centers: the ports of Los Angeles/Long Beach, New York/New Jersey, and Seattle/Tacoma.

OSC is now in its third year. In phase III, there were federal grants of $6.7 million to the Ports of Los Angeles/Long Beach, $5.2 million to the Ports of Seattle/Tacoma, and $5.2 million to the Port Authority of New York/New Jersey. Prior to these new awards, the three load centers have received a total of $55 million under Operation Safe Commerce, including a total of $13.7 million for Los Angeles/Long Beach, $27.5 million for Seattle/Tacoma, and $13.8 million for New York/New Jersey.[55]

TSA is also field-testing a Transportation Worker Identification Card (TWIC) for workers in all modes of transportation. The purpose of the TWIC is to control access to secure areas of passenger and cargo facilities. TWIC uses biometrics[56] for a secure positive match of the individual to authorized locations. The TWIC prototype is currently being tested at maritime, rail, aviation and ground transportation facilities in California (Los Angeles/Long Beach area), Florida, Pennsylvania, New Jersey, New York and Delaware.

MARAD is part of the U.S. Department of Transportation and supports the U.S. commercial maritime industry. MARAD publishes Maritime Security reports and a planning guide on security. MARAD is also part of the Container Working Group, which has made classified recommendations on how best to ensure the security of maritime container transportation. MARAD has also developed a curriculum for training maritime security personnel.

There are two international agencies with responsibility for maritime security: the International Maritime Organization (IMO) and the World Customs Organization (WCO).

In December 2002, the IMO adopted a new chapter to the Safety of Life at Sea (SOLAS) Convention entitled the International Ship and Port Security (ISPS) Code. This code largely parallels the requirements of the Maritime Transportation Security Act of 2002, which is discussed below. ISPS requires the installation of worldwide satellite tracking equipment, Ship Security Alert Systems (SSAS) and line of site Very High Frequency (VHF) radio vessel tracking devices, Automatic Identification Systems (AIS) on vessels for monitoring vessels' present positions, past port calls and transits.

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[55] U.S. Department of Homeland Security, press release, April 14, 2005.

[56] As defined by TSA, biometrics are "automated methods of recognizing a person based on physiological or behavioral characteristics that are unique to an individual. Physical biometrics include fingerprints, hand geometry, facial patterns, written signatures, and keyboard typing techniques. http://www.tsa.gov/interweb/assetlibrary/TWIC_Brief.pdf

> While vessels have been installing these new communications technologies to provide a worldwide vessel tracking system the equipment and processes required to receive, evaluate and disseminate this surge of information is years off from being fully implemented by governments. The biggest challenges are building and operating the shore based receiving stations around the world to process the vessel information transmitted by vessels' AIS transponders and determining the systems to be used in collecting and sharing this information...
>
> The non-profit Maritime Information Services of North America (MISNA) – comprised of a network of Maritime Exchanges in U.S. and Canada – has developed the capability to bring in both AIS and satellite generated data into a hybrid vessel tracking system called the Automated Secure Vessel Tracking System (ASVTS)…MISNA's vessel tracking system uses existing onboard satellite and VHF communications systems to economically track vessels around the world…MISNA has also built a network of AIS receiving stations around the U.S. which reports a vessel's position every minute when in an AIS covered area. When a vessel is outside an AIS area [beyond about 40 miles], which is 95% of the time, position reports are provided every few hours by the satellite tracking systems…To date, participation in the Long Range Identification and Tracking (LRIT) component of MISNA's secure vessel tracking system is voluntary and is evolving into the "Standard of Care" for responsible ship operators.[57]

CALMITSAC urges rapid installation of MISNA's ASVTS program by the U.S. Coast Guard District Eleven Command that covers all California ports. The system is being considered in District Thirteen, which covers Washington and Oregon, and has already been implemented in District Seventeen in Alaska.

The second international agency with responsibility for maritime security, the World Customs Organization (WCO), works to simplify customs procedures to improve the efficiency of world trade. In May 2005, the WCO issued its Framework of Standards to Secure and Facilitate Global Trade. This document sets out principles for advance, electronic reporting of cargo and shipper information and requires importers to verify security measures taken by its suppliers.

In addition to creating the Department of Homeland Security (DHS) through the Homeland Security Act of 2002 (P.L. 107-296) in November 2002, Congress has passed several other important laws on port and maritime security:

Maritime Transportation Security Act of 2002 (P.L. 107-295).[58] The MTSA requires the Coast Guard to develop national and regional area maritime transportation security plans. It requires ports, terminals, and certain types of vessels to develop security and incident

[57] Captain Ed Page, U.S. Coast Guard (Retired), President, Maritime Information Services of North America (MISNA), "The Emerging World of Vessel Tracking", October 2005.
[58] http://www.tsa.gov/interweb/assetlibrary/MTSA.pdf

response plans with approval from the Coast Guard. The Act also allows CBP to require electronic transmission of cargo manifest information prior to the arrival or departure of the cargo. The Act also requires the issuance of biometric security cards and the completion of background checks for entry into secure areas of maritime facilities or vessels. A controversial provision requiring user fees to pay for the cost of increased security was dropped from the bill in the conference committee.

Coast Guard and Maritime Transportation Act (MTSA) of 2004 (P.L. 108-293). The Act contains a number of provisions related to maritime security that add specificity to provisions of the MTSA. The Act requires the DHS to develop a plan for port security grants and how to allocate the funds. The Act also requires the U.S. DOT to evaluate sensors that can track marine containers and detect hazardous and radioactive materials inside the containers.

Intelligence Reform and Terrorism Prevention Act of 2004 (P.L. 108-458). The Act imposes deadlines for a TWIC deployment plan, the preparation of a national maritime security plan, completion of facility and vessel vulnerability assessments, status report on seafarer identification, and a status report on establishing performance standards for container seals and locks. The Act also requires DHS to develop a terrorism "watch list" for passengers and crews aboard cruise ships.

Trade Act of 2002 (P.L. 107-210). The Act gave the President increased authority to liberalize trade with other nations, but it also requires exporters to electronically provide advance cargo data. Enforcement of this provision has been deferred, however, until the U.S. Census Bureau completes regulations to implement it. The Census Bureau, which is part of the U.S. Department of Commerce, expects to issue its Foreign Trade Regulations in 2006. Per Census regulations, the electronic export manifest information cannot be shared with any country or private entity. The CBP requires this type of information from other countries, but the U.S. cannot reciprocate under current Census Bureau rules.[59]

It is critical that the various agencies involved with port and maritime security work together to avoid overlap, duplication of effort and conflicting regulations. There also needs to be greater sharing of intelligence information among federal, state and local agencies. The GAO reported, "In surface transportation, timely information-sharing has been hampered by the lack of standard protocols to exchange information among federal, state, and local government agencies and private entities."[60] A barrier to intelligence sharing has been that state and local government and port authority officials do not have the required security clearances.

[59] The Journal of Commerce, December 19, 2005, p. 8 and p. 32.
[60] U.S. General Accounting Office, Transportation Security, Post-September 11th Initiatives and Long-term Challenges, April 1, 2003, GAO-03-616T, and GAO, Maritime Security: New Structures Have Improved Information Sharing, but Security Clearance Processing Requires Further Attention, April 2005, GAO-05-394.

CALMITSAC believes that technology will play a major role in improving port security. RFID e-seals on containers are a good example. Normal seals simply check for mechanical integrity, but a determined criminal can bypass the seal by removing an entire door with the seal intact. E-seals allow for cost-effective monitoring from origin to destination. E-seals also can contain the container number, potentially making error-prone optical character recognition (OCR) systems obsolete. The container number recorded on the e-seal can be matched to a container number in a secure database to reveal the contents and other information about the cargo.

> This is a hefty commercial benefit. Entire supply chains will jump on the wagon, once they know which wagon to board. …After the U.S. and China resolve their differences on the preferred operating frequency range, the adoption of e-seals will be a slam-dunk….New seals and e-seals are just around the corner. If the Department of Homeland Security wants to accelerate their adoption, it should put its weight behind the resolution of the frequency standard debate….With a global radio-frequency standard, the industry will adopt e-seals on its own. This will allow the industry to take advantage of 21st-century security technology and cost savings immediately.[61]

8. Funding

Unfortunately, resolving all of the problems discussed above will take a significant amount of capital investment. It is convenient to place funding options into three basic categories:

1) Existing grants and loan programs; i.e., State Transportation Improvement Program (STIP) funds, federal transportation reauthorization, port security grants, etc.
2) New sources of revenue at the state or federal level, such as new general obligation bonds, a Customs "carve-out", tax credit bonds, imposed new fees or taxes;
3) Project-specific revenue bonds negotiated through Public-Private Partnerships.

The maritime community must continue to vigorously lobby for more federal support and encourage Congress to develop a national freight policy. Everyone agrees, however, that the federal government will not be able to provide all the funds required to keep the goods flowing efficiently. SAFETEA-LU (P. L. 109-59) will provide $286.4 billion in guaranteed spending for highways, rail and transit programs over six years (FY 2004 to FY 2009). This represents a 38% increase over funding levels in the Transportation Equity Act for the 21st Century (TEA-21). Excluding FY 2004, the guaranteed funding level in SAFETEA-LU is $244.1 billion.

SAFETEA-LU, while providing support for several key projects, granted far less funding for goods movement than requested. For example, the Alameda Corridor-East asked for

[61] Robert Hadow, "E-Seals and RFID," Journal of Commerce, October 24, 2005, p. 58.

$900 million but received only $210.52 million.[62] The experience with SAFETEA-LU should be ample evidence of the federal government's inability to solve all of the state's funding problems. Relying exclusively on existing funding sources is problematic because there is not enough grant money available to fund all of critically needed goods movement projects.

Another existing funding source is the Energy Policy Act of 2005, which President Bush signed into law on August 8, 2005. Of the eighteen titles included in the Act Title VII (Vehicles and Fuels) is the most relevant to the Marine Transportation System. In brief, Title VII seeks to:

- Reduce emissions from on-road trucks ($20 million in FY'06; $35 million in FY'07; and $45 million in FY'08), through the Diesel Truck Retrofit and Fleet Modernization Program (similar to the Gateway Cities Clean Air Program.)

- Develop and demonstrate railroad locomotive technologies ($15 million in FY'06; $20 million in FY'07; $30 million in FY'08).

- Evaluate generation of mobile source emission reduction credits for use by stationary sources.

- Accelerate efforts to improve diesel engines and develop after-treatment devices.

- Evaluate long-term idling and establish a program for implementing idle reduction technologies on heavy-duty trucks and other vehicles and engines, through the Engine Idling Reduction Program.

- Include biodiesel testing in evaluation of advanced diesel engine and fuel system technologies.

- Establish a national grant and low-cost revolving loan program to reduce diesel emissions and diesel emission exposures ($700 million over 5 years, representing 70% of the Diesel Emission Reduction Program).

- Establish a grant and loan program to be administered by the states to reduce diesel emissions ($300 million over 5 years, representing 30% of the Diesel Emission Reduction Program).

Existing state funds are extremely limited. The State Transportation Improvement Program (STIP) and Interregional Transportation Improvement Program (ITIP) are generally oversubscribed. The STIP is a five-year capital improvement program, renewed every two years. Projects in the STIP may include projects on state highways, local roads, intercity rail, or public transit systems. The Regional Transportation Planning Agencies

[62] Includes earmarks for projects labeled "Alameda Corridor-East" plus other individual grade separations in Los Angeles, Orange, Riverside and San Bernardino counties.

(RTPAs) propose 75% of STIP funding for regional transportation projects in their Regional Transportation Improvement Programs (RTIPs). The California Department of Transportation (Caltrans) proposes 25% of STIP funding for interregional transportation projects in the Interregional Transportation Improvement Program (ITIP).

At the state level several new sources of funds are being considered. For example, SB 1024 (Perata), as amended on September 8, 2005, would provide $10,275,000,000 in general obligation bonds for transportation projects, emissions reduction programs and environmental enhancements, levee and flood control projects, transit oriented development, housing, regional growth and infill developments.[63] This bill was amended in the Senate, however, on January 26, 2006. The revised bill leaves the amount of bonding unspecified.

The September 8 version of SB 1024 included $2.5 billion for the California Ports Infrastructure, Security, and Air Quality Improvement Account. Of this amount:

- $2 billion would be for the Global Gateways Improvement Fund, which would be available for allocation by the California Transportation Commission (CTC) for infrastructure improvements along federally designated "Trade Corridors of National Significance" or along other corridors that have a high volume of freight movement, as determined by the CTC. In determining projects eligible for funding, the CTC would consult the Global Gateways Development Program report[64] prepared by the Business, Transportation and Housing Agency in January 2002 pursuant to Senate Concurrent Resolution (SCR) 96 (Karnette).
- $400 million would be for the Carl Moyer Memorial Air Quality Standards Attainment Trust Fund.
- $100 million would be for the California Infrastructure and Economic Development Bank to be allocated as grants for port, harbor, and ferry terminal security improvements.

The September 8 version of SB 1024 also provided bond funding for the following programs:

- $1.5 billion for STIP projects
- $1.0 billion for levee improvements
- $2.3 billion for Proposition 42 restoration
- $100 million for environmental enhancements
- $425 million for affordable housing incentives
- $975 million for regional housing and community growth
- $200 million for flood control matching account
- $1 billion for high-speed rail including grade separations

[63] http://www.leginfo.ca.gov/pub/bill/sen/sb_1001-1050/sb_1024_cfa_20060104_095620_sen_floor.html
[64] Business, Transportation and Housing Agency, Global Gateways Development Program, January 2002. http://www.dot.ca.gov/hq/tpp/offices/ogm/GGDP_Final_Report.pdf#xml=http://dap1.dot.ca.gov/cgi-bin/texis/webinator/search/pdfhi.txt?query=global+gateways&db=db&pr=www&prox=page&rorder=500&rprox=500&rdfreq=500&rwfreq=500&rlead=500&sufs=0&order=r&cq=&id=439a2cd01a

- $275 million for transit-oriented development

"Mindful of the discord between Northern and Southern California over the funding of the Bay Bridge replacement project earlier this year, [Senator] Perata has pledged that the southern half of the state will get at least 60% of the transportation and goods movement funds from the bond."[65] CALMITSAC believes that "geographic balance" – or better still, geographic *equity* – must include an explicit recognition of the relative cargo volumes in various regions of the state. As such, 60% for Southern California may be too low.

For the $2 billion in trade corridor funding in the September 8 version of SB 1024, the following types of projects would be eligible:

- Highway capacity improvements and operational improvements to more efficiently accommodate the movement of freight, particularly for ingress and egress to and from the state's seaports, land ports of entry, and airports, and to relieve traffic congestion along major trade or goods movement corridors.
- Freight rail system improvements to enhance the ability to move goods from seaports, land ports of entry, and airports to warehousing and distribution centers throughout California, including projects that separate rail lines from highway traffic and other projects that improve the efficiency and capacity of the rail freight system.
- Projects to enhance the capacity and efficiency of ports.

For the port security funding section of the bill ($100 million), the following types of projects would be eligible:

- Video surveillance equipment.
- Explosives detection technology, including, but not limited to, X-ray devices.
- Cargo scanners.
- Radiation monitors.
- Thermal protective equipment.
- Site identification instruments capable of providing a fingerprint for a broad inventory of chemical agents.
- Other devices capable of detecting weapons of mass destruction that involve chemical, biological, or other similar substances.
- Other security equipment to assist in any of the following: (i) screening of incoming vessels and incoming or outbound cargo; (ii) monitoring the physical perimeters of harbors, ports, and ferry terminals; (iii) providing or augmenting onsite emergency response capability.
- Overweight cargo detection equipment, including, but not limited to, intermodal crane scales and truck weight scales.
- Developing disaster preparedness or emergency response plans.

[65] Los Angeles Business Journal, November 28 – December 4, 2005, p. 27.

Regarding the $1 billion for the High Speed Rail Corridor, CALMITSAC believes that building grade separations on the high-speed corridor is premature, considering that the project has not yet been funded or approved. CALMITSAC recommends that these funds be redirected to key freight railroad-highway grade separations and rail-rail grade separations such as the Colton crossing.

With regard to funding for urban infill projects and transit-oriented development, CALMITSAC believes that SB 1024 should stipulate that state funding would not be used to support housing projects next to existing freight rail yards, freight railroad tracks, or industrial facilities. Such housing projects simply generate protests and needlessly subjects residents to air and noise pollution.

The January 26 version of SB 1024 lists the following types of projects, without identifying bonding amounts:

- State Transportation Improvement Program.
- Passenger rail improvements.
- Levee improvements.
- Flood control.
- Restoration of Proposition 42 transportation funds.
- Port infrastructure and security projects.
- Trade corridors of significance.
- Transit security projects.
- Grade separation projects.
- Local bridge seismic upgrade projects.
- State-local partnership projects.
- Emissions reduction projects.
- Environmental enhancement projects.
- Transit-oriented development.
- Housing, regional growth and infill development.

Assembly Speaker Nunez has authored another bond proposal through AB 1783. This bill does not specify a dollar amount for infrastructure improvements. Instead, the bill outlines principles to be used in allocating bond funds to various programs, including:

- Repayment of transportation funds resulting from the suspension of the General Fund transfers.
- Goods movement and community and environmental mitigation, for planning, design, engineering, and environmental activities related to highway capacity improvements, freight rail system improvements, and environmental mitigation.
- Improvements to State Highway 99.
- Public transportation.
- Transportation security, including port and mass transit security.
- Carl Moyer Memorial Air Quality Standards Attainment Trust Fund.
- Clean Air and School Bus Safety Fund.

- Environmental mitigation and safety.
- Flood control.
- Improvements to drinking water systems.
- Improvements to wastewater treatment systems.
- Restoration and improvements for the Sacramento-San Joaquin Delta.
- Cleanup of brownfields and urban infill development.
- Financing of sustainable communities.
- Financing for local and regional planning partnerships.
- Acquisition, preservation, and restoration of open space, agricultural land, and habitat.
- Multifamily housing units.
- Housing for individuals and households moving from emergency shelters or transitional housing or those at risk of homelessness.
- The California Homebuyer's Downpayment Assistance Program.
- Farm worker housing programs.
- Land use capital incentive grants to local governments to increase housing.
- Nonprofit hospitals demonstrating financial need and providing significant levels of care to low-income communities, rural communities, and the uninsured.
- Purchase of emergency response communications equipment.

On January 7, 2006 Governor Schwarzenegger unveiled his Strategic Growth Plan (SGP), which calls for $68 billion in General Obligation (G.O.) bonds and $800 million in Lease Revenue bonds to support a $222 billion infrastructure program over the next ten years. Included in this proposal are $12 billion in G.O. bonds for transportation infrastructure development and environmental mitigation, $38 billion for education, $9 billion for flood control and water supply, $6.8 billion for public safety, and $2.2 billion for courts and other public service infrastructure.

The Port Air Quality Mitigation program would require a 1:1 match, while the Trade Corridors and Goods Movement Infrastructure program would require a 4:1 match. This means that 20% of an eligible goods movement project could be funded with trade infrastructure General Obligation bonds. There are no matching requirements for the other bond categories.

SB 1165 (Dutton) and its companion in the Assembly, AB 1838 (Oropeza) were introduced on January 10, 2006.[66] These bills would implement the transportation and air quality provisions of the Strategic Growth Plan. CALMITSAC is concerned about the 4:1 matching requirement for the trade infrastructure bond. Smaller ports, in particular, would probably find it very difficult to meet this matching requirement. CALMITSAC recommends that this provision be changed to a 1:1 match.

The following table shows the proposed transportation bond proposal.

[66] http://www.leginfo.ca.gov/pub/bill/sen/sb_1151-1200/sb_1165_bill_20060110_introduced.html
http://www.leginfo.ca.gov/pub/bill/asm/ab_1801-1850/ab_1838_bill_20060110_introduced.html

Transportation General Obligation Bond Fund 10-Year Expenditure Summary
Governor's Strategic Growth Plan
(Billions of Dollars)

Project Category	2006 Bond FY '07 – FY '11	2008 Bond FY '12 –FY '17	Total FY '07 – FY '17
Highways: Regional Priority Routes, SR 99 Corridor Enhancements, Inter-regional Routes	1.7	3.6	5.3
Highways: Corridor Mobility Management	0.3	0.0	0.3
Transportation Technology (ITS)	0.2	0.0	0.2
Inter-City Passenger Rail	0.4	0.1	0.5
Park-and-Ride Facilities, Pedestrian/Bike Paths	0.1	0.1	0.2
Port Air Quality Mitigation	1.0	0.0	1.0
Trade Corridors and Goods Movement Infrastructure	1.0	2.0	3.0
State Highway Operations and Preservation Program (SHOPP)	1.3	0.2	1.5
Total Transportation and Air Quality Bond	6.0	6.0	12.0

SB 1165 and AB 1838 specify that the "matching funds may be provided from private funds or from other appropriate local or federal funds [i.e., non-state funds]. Funding sources that were programmed for transportation uses at the time this section was enacted may not be used for matching purposes." Presumably funds already programmed in a STIP would not be eligible for matching. Apparently the intent is to avoid moving dollars from a previously funded project to a new goods movement project. CALMITSAC is concerned, however, that SAFETEA-LU earmarks and other grant funds that are already committed to a goods movement project would not be eligible as matching funds because of their "programmed" status. It is also not clear whether funds that ports have already committed to a project would be considered "programmed" funds. CALMITSAC believes that all non-G.O. funds, whether programmed or not, should qualify as matching funds.

According to the bills, by December 31, 2006 the California Transportation Commission would adopt guidelines for allocating the funds, including performance-based measures such as cost-effectiveness and safety. The bill also requires the CTC to consider the following factors when allocating funds: velocity, throughput, reliability, congestion reduction, emission reduction, geographic balance, and matching funds required. CALMITSAC believes that the "throughput" factor needs to take into account the relative volume of goods movement in the various regions of the state. The current 60-40 north-

south split used in allocating funds makes sense for most STIP projects, but is wholly inadequate for allocating dollars to trade corridor and goods movement projects.

It is recommended that in consultation with CALMITSAC, Caltrans and BT&H develop guidelines for allocating funds and recommend trade corridor and goods movement projects to the CTC for adoption. For port air quality mitigation projects, however, it would make more sense for CARB to develop the guidelines and recommend projects.

The state goods movement action plan would be the primary document for deciding what projects would be funded. SB 1165 states, "No funds shall be allocated pursuant to this subdivision until the commission [the CTC] adopts the trade infrastructure and goods movement action plan required by Section 99100." That section requires CTC adoption by December 31, 2007.

One glaring omission in the Governor's Strategic Growth Plan is funding for port security. The SGP includes $6.8 billion in G.O. bonds for public safety, including the construction of additional jails, replacement of deteriorating emergency response facilities of the Department of Forestry and Fire Protection, and other projects but nothing for port security. CALMITSAC urges that the port security component of SB 1024 be incorporated into the SGP and its implementing legislation, SB 1165/AB 1838.

CALMITSAC believes that negotiations between the Governor's office and the legislature should take place as soon as possible to resolve the differences among SB 1165/AB 1838, SB 1024, and AB 1783. At this stage of development, CALMITSAC believes that SB 1165 and AB 1838 are more fully developed than the other two; thus, attention should be focused on reaching consensus on the language in SB 1165 and AB 1838.

Assemblyman Kevin McCarthy (R-Bakersfield) has introduced a competing proposal via Assembly Constitutional Amendment (ACA) 27. This amendment calls for a "pay-as-you-go" approach to infrastructure investment, in contrast to incurring more debt through the issuance of General Obligation bonds. For fiscal year 2008, ACA 27 would require the State Budget to allocate 1% of total General Fund revenues to infrastructure projects of "statewide significance and interest." For FY 2009 and beyond, another ½% of General Fund moneys would be added each year, or $750 million, whichever is less. Allocations would not be made in years in which General Fund revenues are lower than $5 billion.

Another proposal for new funding is the Los Angeles County Economic Development Corporation's (LAEDC) West Coast National Freight Gateway Program (WCNFGP). This program entails a three-pronged funding strategy involving a $100 per TEU ($200 per FEU) container fee paid by retailers, a 10% Customs carve-out, and tax credit bonds. Part of the fee would be used to pay the principal component of the tax-credit bonds. The state would pay the interest component of the debt. In LAEDC's plan each of these funding sources would provide one-third of the total $10.5 billion cost of the program. As proposed by LAEDC, all three sources would require either federal or state legislative

approval. LAEDC has developed draft legislative language. The funds would be used for a "Five-County Consensus Project List", including the Gerald Desmond Bridge, truck lanes on I-710 and I-15, other highway improvements on SR-57, SR-91 and SR-78 (Imperial County), Alameda Corridor-East grade separations, the Colton crossing, and railroad mainline capacity enhancements in Southern California.

LAEDC has obtained a legal opinion from the law offices of Orrick, Herrington & Sutcliffe, LLP stating that a legislated fee would pass a Commerce Clause test.[67] The shipping industry disputes this claim, and has threatened litigation if a container fee is imposed through legislation.

With SB 760, Senator Lowenthal took another approach. This is a two-year bill (2005-2006) calling for a $30 per TEU "regulatory" fee ($60 per FEU) on each shipping container processed in the ports of Los Angeles and Long Beach. The ports would retain one-third of the funds for port security enhancements. One-third of the funds would made be available to the California Transportation Commission (CTC) for a) rail grade separations, b) expansion of on-dock rail facilities, and c) other projects that facilitate the movement of cargo by rail. The bill specifically prohibits use of the funds to construct, maintain or improve highways, thus the Gerald Desmond Bridge and the I-710 would be ineligible. The final one-third of the funds would go to the South Coast Air Quality Management District for reducing emissions from sources at the ports.

A major issue has been whether a container fee would divert cargo away from California ports. In an attempt to answer that question, the Southern California Association of Governments (SCAG) contracted with Leachman Associates, LLC to evaluate the potential impact of container fees on cargo diversion. SCAG assumed the fee would be applied to loaded import containers only. SCAG suggests that the fee be developed through negotiations with industry rather than through legislation. SCAG recommends that the funds be used to develop a system of exclusive truck lanes on I-710, SR-60, and I-15 as well as for mainline railroad improvements and grade separations east of downtown Los Angeles.

Major conclusions of the SCAG report include:

- Fees assessed but not used for congestion relief cause loss of volume in the long run. A fee of $60 per FEU (e.g., SB 760) would result in about a 6% drop in both total and transloaded imports if transit times are not reduced.

[67] Article I, Section 8, clauses 1-3 of the U.S. Constitution read as follows: The Congress shall have Power To lay and collect Taxes, Duties, Imposts and Excises, to pay the Debts and provide for the common Defence and general Welfare of the United States; but all Duties, Imposts and Excises shall be uniform throughout the United States; To borrow Money on the credit of the United States; To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes.

- Assuming fees are invested in projects that relieve congestion, San Pedro Bay imports are inelastic (i.e., relatively little change) up to about $200 per FEU. (Causes a 4% reduction in total volume, but a 12.5% increase in transloading volume).

- Fees above $200 per FEU are dangerous even with congestion relief.

- San Pedro Bay port volumes are much more elastic with respect to congestion than modest container fees. [68]

Over the last few years, there have been several congressional efforts to carve-out Customs duties for port security purposes; e.g., Ose (H.R. 2193), Harman (H.R. 1731), Collins (S. 855), Millender-McDonald (H.R. 478), and most recently Murray (S. 2008). In 2002, Congressman Lipinksi of Chicago proposed the National Rail Infrastructure Program Act, which would have created a 10% Customs carve-out for railroad infrastructure. Congress has turned down all of these bills, with the exception of S. 2008, which hasn't been considered yet. This latest bill, introduced on November 15, 2005 and known as the GreenLane Maritime Cargo Security Act, would authorize $835 million in appropriations, with the source being U.S. Customs duties. S. 2008 is currently stalled in Congress because of a jurisdictional dispute. The Senate Commerce Committee, chaired by Senator Ted Stevens (R-Alaska), has circulated a draft of a competing bill, the Transportation Security Improvement Act. The Commerce Committee has jurisdiction over the Coast Guard and the Transportation Security Administration.[69]

A study conducted by the U.S. General Accounting Office at the request of former Louisiana Senator John Breaux estimated that between 1999 and 2001 about 78% of Customs duties were collected from marine sources. [70]

The shipping industry strongly opposes legislatively imposed fees and Customs carve-outs, including proposals for using an "increment of growth" in Customs duties. Because of the North American Free Trade Agreement (NAFTA), the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR), and other ongoing efforts to reduce barriers to trade, there is no reliable increment of growth in Customs duties.

As shown in the table below, over the last five years growth in Customs duties has been relatively flat. In FY 2001 and FY 2002, Customs duties actually declined.

[68] Leachman & Associates, LLC, Port and Modal Elasticity Study, Final Report, prepared for Southern California Association of Governments, September 7, 2005.
[69] The Journal of Commerce, December 5, 2005, p. 8.
[70] U.S. General Accounting Office, Marine Transportation: Federal Financing and a Framework for Infrastructure Investments, p. 37.

Customs Duties, FY 2000– FY 2004
(Dollars in thousands)

Year	Duties
FY 2000	$20,555,901
FY 2001	$19,813,849
FY 2002	$19,787,943
FY 2003	$20,601,425
FY 2004	$21,279,612

Source: U.S. Customs and Border Protection,
Performance and Annual Report, Fiscal Year 2004, p. 101.[71]

Customs carve-outs are also opposed by the Office of Management and Budget.

> As the second-largest source of general revenue, Customs duties are controlled by the White House Office of Management and Budget. If Congress were to redirect customs revenues to port and maritime infrastructure improvement, OMB would probably fend off the challenge.[72]

U.S. trade negotiators are seeking reductions in tariffs. During the week of November 7, 2005, at the World Trade Organization (WTO) Doha Round of discussions in Geneva, the U.S. asked developed nations to agree to cut tariffs by 55% to 90% and to cap tariff rates at 75%. (A 75% tariff means that the imported price of the goods is 75% greater after the imposition of the tariff). The European Union has countered with an offer to cut its tariffs by 35% to 60%.[73]

In the U.S., importers, customs brokers and freight forwarders applaud efforts to reduce tariffs. They want these duties reduced, if not eliminated altogether, and they do not want to create a new constituency for the use of Customs duties. In the passage below, Robin Lanier, Executive Director of The Waterfront Coalition reminds us that U.S. trade policy favors the reduction of trade barriers.

> The Doha Round is a multi-lateral negotiation that … has been underway for more than four years under the auspices of the World Trade Organization (WTO).[74] In this round each WTO member will be negotiating "market

[71] http://www.customs.gov/linkhandler/cgov/toolbox/publications/admin/cbp_annual.ctt/cbp_annual.pdf
[72] JoC Week, October 7-13, 2002
[73] FedEx Trade News, November 10, 2005. http://www.customsdoc.com/
[74] The General Agreement on Trade and Tariffs (GATT) completed 8 rounds of multilateral trade negotiations (MTNs). The Uruguay Round (the 8th round) concluded with the signing of the Final Act on April 15, 1994, in Marrakesh, and produced the World Trade Agreement and its annexes and established the WTO. The Ministerial Conference is the WTO's highest-level decision-making body. It meets at least once every two years, as required by the Marrakesh Agreement. The Fourth WTO Ministerial Conference was held in Doha, Qatar from November 11-14, 2001. The Sixth WTO Ministerial Conference was held in Hong Kong on December 13-18, 2005. Other meetings were held in Singapore (December 9-13, 1996),

> access" accords that will call for the mutual elimination or reduction of import tariffs….I would imagine that in the end the round will not fully eliminate tariffs but there will be significant progress made in tariff reductions – especially on the high tariff items like footwear and wearing apparel, which are the items that generate the largest amount of cash at the border. In return for the U.S. removing or reducing tariffs on imports of footwear and apparel, we would expect a similar reduction of tariffs on our food and manufactured exports. Please note that this is not a policy that was pursued by agriculture [because agriculture in the U.S. wants to preserve tariffs on imported agricultural goods and to maintain farm subsidies, which are largely derived from Customs duties]…Open trade depends on reduced tariffs. [Tariffs] are trade distorting and bad for free trade. The shipper interests that I represent – importers of wearing apparel and footwear – are strong supporters of reductions in U.S. import tariffs. U.S. export industries support tariff reductions in the U.S. as a trading chip for reductions of very high foreign tariffs that impede their ability to sell in foreign markets....Calling for a permanent earmark of tariffs is not in the trade's best interests over the long haul…. To create a trust fund out of tariffs would be impossible. First, it runs counter to trade policy; second,… tariffs are likely to decline over time as we continue to negotiate trade agreements; and third, it would be fought…by appropriators, authorizers, and the Bush Administration. While proposals have been offered on the Hill they have been rejected at every turn. They are, in fact, laughed at by the authorizers and appropriators. You can't pass this proposal into law.[75]

In the U.S., Customs duties are deposited into the General Fund, with about 30% remanded to agricultural and food programs (farm subsidies), as dictated by Section 612 of Title 7 of the U.S Code.[76] During the WTO discussions in Geneva during November 2005, the European Union – according to the U.S. – still hasn't offered enough market access for imported foods to meet a U.S. offer to cut farm subsidies by 60% over five years.

About 5,800 delegates of the 149-member WTO attempted to reach an outline deal at the Sixth Ministerial Conference in Hong Kong meeting December 13-18, 2005. The chief point of dispute has been agricultural subsidies that the European Union and the United States give to their farmers, which critics charge distort trade and serve to undermine farmers in the developing world.[77] Agriculture tends to dominate the poorest economies of Africa, Latin America and Asia. So much of the WTO negotiations have revolved around proposals for lowering barriers to trade in farm products, and curtailing the subsidies that rich nations pay their farmers to grow cotton, corn and other crops. Such

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Geneva (May 18-20, 1998), Seattle (November 30-December 3, 1999), and Cancun (September 10-14, 2003).

[75] E-mail communication from Robin Lanier, Executive Director of the Waterfront Coalition, to Gill Hicks, Chairman of CALMITSAC, August 8, 2005.

[76] U.S. General Accounting Office, Marine Transportation: Federal Financing and a Framework for Infrastructure Investments, p. 37.

[77] FedEx Trade News, November 10, 2005. http://www.customsdoc.com/

subsidies can lead to gluts and depressed world prices that put farmers in poor lands at a disadvantage.

A compromise was reached in Hong Kong on December 18, 2005. Delegates agreed to eliminate farm export subsidies by 2013. The agreement also calls for rich countries to eliminate all export subsidies on cotton by 2006 and gives the world's poorest nations special trade privileges. Wealthy nations committed to giving duty-free and quota-free privileges to at least 97% of products exported by the least developed countries – countries with annual per capita incomes of $750 – by 2008. The agreement reached in Hong Kong sets April 30, 2006 as a new deadline for working out formulas for cutting farm and industrial tariffs and subsidies — the nuts and bolts of an eventual trade pact. However, U.S. Trade Representative Rob Portman said he would have a hard time selling the agreement to end U.S. export aid for cotton to U.S. lawmakers. [78]

In a December 27, 2005 editorial, the Los Angeles Times had a sobering assessment of the compromise reached at the Sixth WTO Ministerial Conference in Hong Kong:

> Especially disappointing was the failure by the World Trade Organization to make much progress in opening markets and reducing subsidies for agricultural goods, a critical step toward raising living standards in the Third World. Bizarrely, leaders of industrialized nations would rather give away money than free up their markets, which would boost their own economies as well as those of their trading partners. A better trade deal must be put at the top of the world's agenda in the coming year.[79]

Customs carve-out proposals are clearly a futile exercise, considering that:

- U.S. trade negotiators are whittling away at the source of revenue.
- There is no reliable increment of growth in Customs' duties.
- All previous legislative attempts have failed.
- U.S. farmers are trying to hold onto an important source of agricultural subsidies.
- Importers and the White House Office of Management and Budget continue to be opposed.

The Waterfront Coalition is equally clear about legislated fees. In an August 11, 2005 letter to Governor Schwarzenegger, Robin Lanier states:

> A state-imposed tax on international cargo would directly challenge several provisions in the U.S. Constitution, and would, if enacted create a significant new precedent that could seriously disrupt national and international commerce. As a general matter the U.S. Constitution reserves the taxation of commerce, both national and international to the federal government. Therefore these proposals are guaranteed to result in litigation that would take

[78] Associated Press, December 18, 2005.
[79] Los Angeles Times, December 27, 2005, p. B12.

> years to resolve and would very likely end up before the U.S. Supreme Court. Any revenue from taxes on commerce would, at best, take many years to realize.
>
> There are other good reasons to oppose these proposals. They are bad for business, especially California's agricultural exporters. They have been crafted by individuals who do not fully understand international commerce or the national and international consequences of burdening it with new taxes. They have been put forward without any consultation with the cargo interests who are expected to pay these new taxes or who might face trade retaliation as a result of them. But, ultimately, the main reason to oppose taxes on international cargo is the absolute certainty that they will be challenged in court and will end up costing the State of California more than they are likely ever to raise.

This does not mean that industry arbitrarily opposes all user fees. There should be a clear distinction between a legislatively imposed fee and a negotiated fee for projects that clearly benefit the industry. Shippers and terminals negotiated the PierPass program involving a $40 per TEU fee for peak-period gate moves. The Waterfront Coalition was instrumental in facilitating the negotiations for PierPass. The Alameda Corridor fee (initially set at $15 per loaded TEU) was a negotiated fee approved by the railroads.

CALMITSAC believes that Customs carve-outs and legislated container fees are the wrong approach. SB 760, LAEDC's work, the SCAG elasticity study, and the state's Goods Movement Action Plan have been very helpful in terms of motivating all stakeholders to take these issues seriously. CALMITSAC is grateful to Senator Lowenthal for making SB 760 a two-year bill to allow stakeholders to develop an alternate approach.

CALMITSAC believes the correct approach is to negotiate Public-Private Partnerships for high-priority infrastructure projects. CALMITSAC respectfully requests members of the legislature to refrain from introducing new container fee bills in 2006. Goods movement stakeholders must be given an opportunity to negotiate funding agreements. They cannot do this if they have to put all their time and energy into fighting legislation that they believe is unworkable. Worse yet would be a drawn-out legal battle between shippers/maritime industry lawyers and those advocating a legislated fee. This would guarantee that no progress would be made on the important infrastructure projects and environmental programs so badly needed in California.

First, a consensus on the priority projects and programs must be developed. Second, funding shares must be negotiated. It has been said that shippers will "pay for value" measured in terms of reduced delay, or increased velocity or reliability. The only way to foster true Public-Private Partnerships is to first demonstrate real value to the various stakeholders and then negotiate shared funding responsibility. This is what the Alameda Corridor Transportation Authority did in the 1990's. SCAG continues to refine a matrix

of values that can be used to evaluate benefits of key high-priority projects to both the public and private sectors.

Specific plans of finance must be developed around a limited set of high-priority projects; i.e., future success stories, that all stakeholders agree are absolutely essential, as opposed to mandating user fees through legislation. The industry has repeatedly said, "There is no trust in trust funds". Some funds have been raided; some have been over-collected and under-spent. Project-specific revenue streams for focused, well-managed projects can be protected for the benefit of bondholders and users alike.

Projects that have well-defined plans of finance and negotiated Public-Private Partnerships stand a better chance of receiving federal dollars in the next reauthorization. For several years, the U.S. DOT has been promoting innovative finance and Public-Private Partnerships. It is important that all stakeholders start listening to the DOT instead of continuing to believe that the federal government will pay for the lion's share of project costs.

Plans of finance should include a mix of funding sources (federal, state, local and private). Assuming that projects have multiple beneficiaries, no one sector should bear the whole financial burden. Failure to develop feasible plans of finance simply means the projects will not get built, leaving us with more congested traffic, additional delays to the movement of cargo, cargo diversion, economic dislocation, and greater environmental degradation.

Keys to success in Public-Private Partnerships include:

- Consensus on what high-priority projects to build
- Private sector "buy in"
- Clear delineation of costs and benefits
- A balance of economic and environmental benefits
- Consensus on funding shares, point of collection of any fees and method of payment
- Legal authority
- Stable revenue stream
- Funding firewalls
- Sunset clauses
- Appropriate allocation of risk
- Cost and schedule control
- Experienced project management
- Product orientation not process orientation
- Focused agency mission
- Clear decision making authority

This implies that before private capital (in the form of fees or equity investment) can be committed to a project, the institutional arrangements for implementing the high-priority projects will have to be sorted out. In crafting a successful public-private partnership, it is

important to consider what it would take to earn an "investment grade" bond rating from Moodys, Standard & Poors, and Fitch. Project management and oversight are a consideration in rating bonds; thus, it will be important for the agencies responsible for implementation to have a strong track record in cost and schedule control.

9. Project Delivery and Options for Project Ownership and Operation

Rating agencies and investors seek to reduce investment risk. One way to reduce risk is to use design-build procurement. Advantages of design-build include:

1) Reduces overall completion time by enabling the design and construction phases to overlap.

2) Reduces inflationary costs and provides an opportunity for earlier revenue collection.

3) Facilitates financing through earlier identification of total project cost. A price can be obtained for the work prior to completion of the design phase, unlike the traditional approach where design is completed prior to obtaining a price.

4) Encourages contractor innovation through early participation in the development of the project.

Another method of expediting project delivery is "design sequencing." Design sequencing allows the sequencing of design activities to permit each construction phase to commence when design for that particular phase is complete instead of requiring the design for the entire project to be complete before construction can begin. With design sequencing, agency-employed engineers design and inspect projects. With design-build projects, the design-build consortium performs all design, construction and inspection.

Privately owned and operated facilities, such as toll roads, can help governments to attract alternative financing and to manage risk. There are variations of this approach, such as Design Build Operate Maintain (DBOM) and Design Build Finance Operate (DBFO). The Federal Highway Administration (FHWA) has an excellent website that describes these and other options along with several case studies.[80] Examples of privately owned or operated facilities are the SR-125 toll road project in San Diego County[81] and the Chicago Skyway.[82]

The SR-125 toll road project is a new 11-mile highway alignment from SR-905 near the International Border to SR-54 near Sweetwater Reservoir. The southern 9.5-mile section of SR-125 has been constructed as a privately financed and operated toll road with electronic toll collection. The toll road has been developed under California's AB 680 legislation passed in 1989. A limited partnership, San Diego Expressway, LP, holds a franchise with the state under which it finances and builds the highway. The limited

[80] http://www.fhwa.dot.gov/ppp/contactus.htm
[81] http://www.fhwa.dot.gov/ppp/sr125.htm
[82] http://www.chicagoskyway.org/

partnership then leases back, operates and maintains the facility for 35 years. At the end of 35 years, control goes back to the state at no cost.

The northern 1.5-mile section, including the interchange with SR-54 is publicly financed with a mix of federal highway funds and local sales tax funds (San Diego Association of Governments) ($132 million). Once opened, this segment will operate as a freeway.

Both the private and publicly funded portions have been built by the same contractor under two design-build contracts with the limited partnership. California Transportation Ventures, Inc. (CTV), the general partner, manages the project and will administer the contracts. CTV is a wholly owned subsidiary of Macquarie Infrastructure Group.

The Chicago Skyway Bridge is a 7.8-mile toll road built in 1958 to connect the Dan Ryan Expressway to the Indiana Tollway. For almost 50 years the Skyway was operated and maintained by the City of Chicago. In January 2005 the Skyway Concession Company, LLC (SCC) assumed operations on the Skyway on a 99-year operating lease. SCC is responsible for all operating and maintenance costs but has the right to all toll and concession revenue. SCC is owned by Cintra Concesiones de Infraestructuras de Transporte S.A. and Macquarie Infrastructure Group. In this Public-Private Partnership, the City of Chicago received a cash infusion of $1.83 billion.

In 2005, Governor Schwarzenegger proposed a package of bills known as "Go California," which would permit design-build procurement, design-sequencing and privatization of certain facilities, such as toll roads. The bills are SB 705 (Runner), AB 1266 (Niello), and AB 850 (Canciamilla). SB-705 would grant design-build authority needs to Caltrans only. CALMITSAC believes that this authority should be explicitly extended to ports, transportation joint powers authorities, county and city public works departments, and local and regional transportation agencies. CALMITSAC encourages transportation agencies to seriously consider the option of private ownership and operation, particularly for toll roads such as the proposed truck-only lanes. To preserve this option, AB 850 or an equivalent privatization bill must be passed.

Thankfully, SB 1165 (Dutton) and AB 1838 (Oropeza) would extend design-build authority to "local transportation entities" in addition to Caltrans. It is not entirely clear, however, whether ports and transportation Joint Powers Authorities fall under the bills' definition of a "local transportation entity." It is also not clear whether the bills would permit California ports and transportation JPAs to enter into agreements with private entities for ownership or operation of transportation facilities (e.g., Gerald Desmond Bridge). Having the flexibility to award design-build contracts and/or to enter into ownership/lease agreements would be desirable.

10. The Role of Academic Institutions in Statewide Goods Movement

Valid research and reliable data are needed to advance education, information dissemination, and informed decision-making about both the benefits and costs of goods movement and its related activities. There have been a large number of policy and

position papers addressing the topic, but many have been written from a single stakeholder perspective.

Academics necessarily cross many social and professional boundaries in ways uncharacteristic of other professions. The academic community is uniquely positioned to consider alternative solutions to complex trade problems and to build an empirical base of information. This information can be used to inform future research and outreach activities and contribute to the knowledge base of goods movement stakeholders including policy makers. As an example, the environmental and health-related impacts of trade are better understood now because of independent academic research.

California's universities will continue to play a pivotal role by assessing the impacts, both positive and negative, of goods movement. All stakeholders rely upon unbiased research into the relationship between trade growth and congestion, traffic safety, air quality and economic mobility. The academic community, in partnership with the research arms of agencies such as Caltrans and the Air Resources Board, is also our best source of economic and operational analysis, shedding light on effective modeling and forecasting methods, and means of measuring productivity. Universities should also be encouraged to evaluate the effectiveness of policies and programs sponsored by both the public and private sectors to improve goods movement. This includes helping to identify industry Best Practices at the state and local level, and from other parts of the country and the world.

The Internet has made it possible for the findings of California's researchers to reach a wider audience. The METRANS Transportation Center[83] is a U.S. DOT University Transportation Center (UTC) and a joint partnership of the University of Southern California and California State University, Long Beach. METRANS is the only UTC in the state with a goods movement and international trade focus and established the "Monitoring the Ports" Initiative in 2003. The program seeks to broaden the knowledge base of port-based international trade through data gathering and research in the areas of productivity of port operations, including labor, terminal operations, and institutional issues; goods movement within the Los Angeles region; goods movement related regulations or policies; and impacts of goods movement, including congestion, traffic safety, air quality.

Academic institutions, including the state's community colleges, also have a vital role to play in performing outreach and professional development functions for constituencies that are not normally reached by industry efforts. The industry relies upon both community colleges and state universities in particular to attract students to the discipline of supply chain management and to help develop a well-educated and skilled pool of supply chain professionals ready for employment at all levels.

Model programs exist at California State University, Long Beach (CSULB) and the California Maritime Academy (CMA). The CSULB Global Logistics Specialist (GLS®) professional designation program uses industry experts to teach goods movement and the

[83] www.metrans.org

supply chain.[84] Courses are offered both in the classroom and online. The Master of Arts in Global Logistics (MAGL) is the only graduate program of its kind to integrate both the traditional MBA with a curriculum based in global logistics. Both the GLS® and MAGL are offered by the Center for International Trade and Transportation (CITT) at CSULB (www.uces.csulb.edu). CITT is a multi-disciplinary center for multi-modal transportation studies and integrated logistics research, education, training, policy analysis, and community outreach.

The CMA offers majors in Global Studies and Maritime Affairs, Marine Transportation and Marine Engineering Technology. The Business Administration degree has an option in Logistics and International Business. CMA also offers a comprehensive program of Continuing Education.[85]

Similar educational efforts involving both degree and professional designation programs, taking advantage of the expertise of goods movement stakeholders and made available in non-traditional formats, are to be encouraged. They result in a well-informed workforce and general populace.

In addition, conferences, workshops, Town Halls, symposia and focus groups are various means of both sharing goods movement information from an industry perspective and receiving feedback on plans and procedures. Educational efforts that raise awareness of goods movement issues with elected officials and others in decision-making positions should be emphasized.

California has long been fertile ground for partnerships that marry the best of industry and academia. The medical and aerospace fields are but two examples. Researchers and goods movement stakeholders should be encouraged to pursue shared interests; and industry and community leaders, including elected officials, should help identify new research, outreach and training opportunities that benefit the state as a whole.

11. Recommendations

Time for action is now. It is not possible to do everything for everyone, but California needs a series of success stories and a willingness to fund them. Collaboration is essential, which means the turf battles must end through a pledge by all stakeholders to work together. Coalition building and successful fund raising depends on commitment, coordination, collaboration, consensus and compromise. CALMITSAC is taking this spirit of collaboration into the development of a strategic plan for California's Marine Transportation System.

CALMITSAC offers the following specific recommendations:

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84 http://www.uces.csulb.edu/CITT/GlobalLogistics/ProgramDescription.aspx?group_number=115&group_version=1

85 http://www.maritime-education.com/

A. Economic Growth

1) Reject proposals for slow growth, no growth or moratoria on port growth. These proposals would negatively impact the state and national economies, hurt opportunities for upward mobility for blue-collar workers, reduce tax revenue, and result in other negative social impacts.

2) Recognize that growing the economy and protecting the environment and public health are cornerstone objectives. These tasks must be done concurrently.

B. Environment

1) Aggressively seek reductions in diesel emissions. Recognize that diesel engine emissions have serious health effects and are therefore the "Achilles Heel" of port and goods movement development. Use environmental enhancements listed in Appendices C and D as a guide.

> Without substantial reductions in diesel emissions, goods movement infrastructure projects are in jeopardy. CALMITSAC believes that reducing truck traffic and accelerating the replacement and upgrading of the truck fleet engines can bring immediate reductions in diesel emissions. Thus, programs like the Gateway Cities truck replacement program should receive significant supplemental funding. A consensus much be reached, however, on whether the truck replacement should emphasize newer, cleaner diesel-powered trucks (the current approach), or LNG-powered trucks, as suggested by the Port of Los Angeles, or a combination of the two approaches.

2) Give serious consideration to market-based approaches to emissions reduction, such as that recommended by the Maritime Goods Movement Coalition.

3) Continue to implement the San Pedro Bay Ports/ACTA truck trip reduction program.

4) Strongly encourage EPA to rapidly finalize its proposed rulemaking for the Control of Emissions of Air Pollution from New Locomotive Engines and New Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder.[86]

C. Project Priorities, Funding, and Public-Private Partnerships

1) Establish priorities for major infrastructure projects, operational improvements, and environmental mitigations, using project lists in Appendices A – D as a guide.

[86] http://www.epa.gov/fedrgstr/EPA-AIR/2004/June/Day-29/a11294.htm

2) Consult shippers, ports, terminals, vessel operators, trucking companies, railroad firms, and the environmental community in the selection of high-priority infrastructure projects.

3) Concentrate on those projects that are ready to go and clearly of high priority. The Governor must exercise leadership by establishing statewide priorities for goods movement development.

4) Identify value and risks of proposed projects to all stakeholders.

5) Negotiate Public-Private Partnerships for the high-priority projects; develop detailed plans of finance, including negotiated shares from federal, state, and local sources and the private sector. Establish appropriate "fire walls" to prevent the funds from being diverted to other projects or programs. Ramp up fees on a project-by-project basis. Project-based fees would sunset when debt service is paid off for any one project.

6) Given the limitations of federal and state funding, recognize that "self-help" strategies will be the primary way to complete the financing for key high-priority projects.

7) Abandon efforts to secure a "Customs carve-out," including proposals to capture an "increment of growth" in customs duties.

8) Establish institutional arrangements for implementation, emphasizing single-purpose entities with a clearly defined mission and decision-making authority. Implementing agencies must have a strong track record in cost and schedule control.

9) Think in terms of how to obtain "investment grade" revenue bond ratings from bond rating agencies. Investment grade financial instruments are required that will stand the test of private and public scrutiny. Projects that receive investment grade ratings are likely to receive higher priority for implementation.

10) Give serious consideration to the option of private ownership and operations for key facilities such as truck-only toll lanes.

D. Labor Availability and Terminal Productivity

1) Identify sources of inefficiency and delay, and develop specific programs to make better use of existing transportation assets.

2) Measure the severity of the looming shortage in truck drivers.

3) Establish uniform methods of computing terminal productivity and capacity.

4) Through technology, allow workers to be dispatched directly to the job site as opposed to reporting to the dispatch hall for job selection.

5) Allow employers to hire a greater percentage of their terminal employees as "steady" workers as opposed to the large numbers of workers that are dispatched daily to regularly available jobs. Worker familiarity and experience with a given terminal can in itself improve productivity.

6) Stagger lunch hours to maximize terminal operations.

7) Explore the use of federal anti-trust immunity for terminals to cooperate in developing port-wide appointment systems.

8) Establish a common chassis pool to improve productivity and turn times within terminals.

9) Spread out vessel sailings and arrivals in the trans-Pacific trade to make maximum use of terminal capacity.

E. Legislation

1) Urge the Legislature and Governor's office to resolve differences among various bond proposals as soon as possible.

2) Seek passage of SB 1165 and AB 1838, the implementing legislation for the Governor's Strategic Growth Plan, with following recommended changes:

    a. Incorporate the port security provisions of SB 1024, including $100 million in General Obligation bonds, into SB 1165 and AB 1838.
    b. Reduce the matching requirement for the Trade Corridors and Goods Movement Infrastructure bonds from 4:1 to 1:1.
    c. Allow all non-General Obligation funds, whether programmed or not, to be used as matching funds.
    d. Extend design-build authority to ports, transportation joint powers authorities, county and city public works departments, and local and regional transportation agencies.
    e. Allow port authorities and transportation joint powers authorities to enter into agreements with private entities for owning or operating transportation facilities.
    f. In the developing guidelines for the distribution of funds to transportation and air quality programs, give serious consideration to geographic equity based in part on the relative volumes of international cargo flowing through various regions of the state.

3) If SB 1024 moves forward independent of other bond proposals, seek the following amendments:

a. Redirect funding proposed for grade separations on the High-Speed Rail Corridor to freight rail-highway grade separations and the proposed rail-rail grade separation at Colton crossing

b. Stipulate that state funding for urban infill projects be disallowed for housing next to freight rail yards, freight railroad tracks and other industrial facilities.

4) Refrain from introducing new container fee bills. Allow government and industry time to negotiate Public-Private Partnerships for infrastructure development and environmental mitigation.

5) Urge Congress to develop and pass legislation that would implement a national goods movement policy.

6) Develop a California consensus position on goods movement development, then work closely with the entire California congressional delegation, the West Coast Corridor Coalition, the Waterfront Coalition and other stakeholders to develop a unified approach to lobbying for additional federal support for goods movement related projects, port security and environmental programs, including approval by the U.S. Senate of The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI.

F. Port Security

1) Encourage the various agencies involved with port and maritime security to work together to avoid overlap, duplication of effort and conflicting regulations.

2) Encourage sharing of intelligence information among federal, state and local agencies. Identify the barriers to intelligence sharing, such as state government, local government, and port authority officials having incompatible levels of security clearances.

3) Urge rapid installation of the Automated Secure Vessel Tracking System (ASVTS) by the U.S. Coast Guard District Eleven Command, which covers all California ports.

4) Urge adoption of a global radio-frequency standard for e-seals for use on marine containers.

5) Conduct the survey proposed by CALMITSAC to evaluate the current status, organizational structure and effectiveness of port security and consequence management efforts in the State of California, including an assessment of vulnerabilities, capability gaps, level of training, exercise plans and procedures.

G. Education

1) Encourage industry leaders to identify skill sets needed for workers at all levels of employment, including entry level. Encourage academic leaders to review curricula within planning, business and engineering programs to ensure that adequate training opportunities exist to produce supply chain management professionals with those various skill sets.

2) Review state directed research programs and priorities to ensure that they emphasize goods movement and trade and transportation issues. Available funding, grants, and training opportunities will encourage faculty who already have an interest in these topics and develop new educators in the trade and transportation disciplines.

3) Encourage state agencies to apply training and continuing education funds toward professional development in the area of goods movement, logistics, maritime, supply chain management and trade and transportation.

Appendix A: Infrastructure Projects
(Not in Priority Order)

San Pedro Bay Ports and Port of Hueneme

Top Priority Projects	**Cost in millions**
I-710 Corridor improvements including dedicated truck lanes	$5,500
Gerald Desmond Bridge replacement	$800
Alameda Corridor SR-47 Expressway (includes Schuyler Heim Bridge replacement)	$420
Alameda Corridor-East grade separations, grade crossing improvements (BNSF and UPRR lines)	$2,500
Rail capacity improvements, including mitigation measures (e.g., triple tracking of Cajon Pass, triple tracking of BNSF San Bernardino Subdivision, and double tracking segments of UPRR Alhambra and Los Angeles Subdivisions)	$3,400
Southern California International Gateway (SCIG): BNSF near dock facility	$200
Intermodal Container Transfer Facility (ICTF) expansion: UPRR near dock facility	$100
Colton Crossing rail grade separation (BNSF and UPRR lines)	$150
POLA/POLB Rail Master Plan for on-dock rail infrastructure improvements (several projects, including Pier B Street Yard in POLB, TRAPAC ondock yard in POLA, triple tracking under Ocean Boulevard at POLB, Reeves Avenue grade separation on Terminal Island, etc.)	$1,300
I-110/SR-47 Connectors Improvement Program	$192
Navy Way Connector to westbound Seaside Avenue	$40
Vincent Thomas Bridge improvement study	$2
Advanced Transportation Management, Information, and Security (ATMIS) System	$8
Port of Hueneme: Santa Paula Branch Line gap closure	$250
Total	**$14,862**

Bay Area and Northern California Ports

Top Priority Projects	**Cost in millions**
I-80/I-680/SR-12 interchange improvements	$706
I-580 eastbound truck climbing lane	$65
Port of Oakland Joint Intermodal Terminal and UPRR intermodal facility access improvements	$12
Port of Oakland Reconstruction of 7th Street/UPRR grade sep.	$100
Port of Oakland Outer Harbor Intermodal Terminal	$88

Port of Oakland Complete dredging to –50 feet	$302
Port of Oakland relocate Maritime Street to the east	$40
Port of Oakland Adeline St. bridge reconstruction (seismic and geometric improvements)	$60
Port of Oakland UPRR mainline upgrades between Oakland and Martinez	$100
Port of Oakland rail improvements to Central Corridor Line: raise clearances and double track over Sierra Nevada	$35 (Sierra element)
Port of Humboldt Bay reestablishment of freight rail service on state-owned North Coast Railroad Authority from port to national rail system	$80
Port of Humboldt Bay modernization of Redwood Dock Marine Terminal to facilitate short-sea shipping barge service to the Port of Oakland.	$37
Port of Humboldt Bay Buckhorn grade separation	$120
Port of Humboldt Bay Confusion Hill Bypass	$75
Port of Humboldt Bay Willits Bypass	$140
Port of Humboldt Bay City of Eureka Waterfront Drive Bypass	$50
Port of Humboldt Bay Rail crossings improvement project	$10
Port of Redwood City Woodside Road/Seaport Boulevard interchange at U.S. Highway 101	$30
Port of San Francisco Illinois St. Multi-modal Bridge across Islais Creek	$23
Port of San Francisco enlarging tunnels for double stack train clearance, dredging to 45 feet MLLW, new cranes.	$50
Total	**$2,123**

Port of San Diego

Top Priority Projects	**Cost in millions**
Harbor Drive/Cesar E. Chavez Parkway grade separation	$25
Harbor Drive/32nd Street grade separation	$75
Total	**$100**

Central Valley Ports

Top Priority Projects	**Cost in millions**
I-580 westbound truck climbing lane	$70
Port of Sacramento channel deepening	$17 (local share)
Port of Sacramento warehousing	$10
Port of Sacramento deferred maintenance of piers, docks, wharves, conveyors, rolling stock	$15
Port of Stockton Dagget Road improvements	$15

Port of Stockton upgrade rail capacity between Oakland and Stockton via Niles Junction (for freight and passenger rail service.)	$144
Port of Stockton rail improvements Bakersfield to Stockton, including double track from Shafter to Jastro.	$36
Cross-Tehachapi rail capacity improvements	$300
California Interregional Rail Intermodal System (CIRIS) serving multiple points in Central Valley: Shafter, Fresno, Stockton, Tracy and Sacramento	$20 (for Central Valley facilities)
Total	**$627**

GRAND TOTAL	**$17,712**

Appendix B: Operational Improvements

Strategy
Continue PierPass program at the San Pedro Bay ports and eventually extend to 24-hour operations when warranted.
Continue advances in technology such as Optical Character Recognition (OCR) and Radio Frequency Identification (RFID) including RFID on containers and chassis. Seek agreement on an international standard for radio frequency for RFID tags on containers.
Develop a regional (if not a statewide or national) chassis pool.
Develop virtual container yards (VCY) in the San Pedro Bay ports and expand the use of Port of Oakland's VCY.
Spread out vessel sailings and arrivals in the Trans-Pacific trade to make maximum use of terminal capacity (to avoid bunching of arrivals on the west Coast from Thursday through Saturday.)
Stow vessels to allow for removal of intermodal cargo first.
Improve the efficiency of "hand-offs" of cargo between various stages of the supply chain.
Improve communications (including electronic data interchange) and planning among terminals, steamship lines and railroads to increase efficiency of on-dock rail movements.
Improve dwell time measurements for containers at port terminals
Improve processing time measurements for trucks inside port terminals
Improve profitability for harbor related trucking to address looming shortage of truck drivers.
Develop port-wide single portal truck appointment systems.
Develop "best practices" for measuring capacity and productivity at ports and terminals.
Monitor effectiveness of free time changes effective July 1, 2005 at the Ports of Los Angeles and Long Beach.
Through technology, allow workers to be dispatched directly to the job site as opposed to reporting to the dispatch hall for job selection.
Allow employers to hire a greater percentage of their terminal employees as "steady" workers as opposed to the large numbers of workers that are dispatched daily to regularly available jobs. Worker familiarity and experience with a given terminal can in itself improve productivity.
Stagger lunch hours to maximize terminal operations.
At the federal level, establish clear roles and responsibilities to prevent overlap, duplication of effort and conflicting regulations with respect to port and maritime security.

Appendix C: Environmental Enhancements

Strategy (from POLB Green Port Policy)
Vessel Speed Reduction (Green Flag Program) – voluntary, incentivised program requiring ships to slow to 12 knots at a distance of 20 miles from Point Fermin.
Shore Power – the Port has committed to a goal of providing shore power to all new and existing container terminals; The Port's ultimate goal is to have 100% of vessels at container terminals plug in once the infrastructure has been retrofitted and the world's fleet has been made shore power capable; in the interim, shore power is being incorporated into new leases that specify targets for vessel compliance and selected existing berths are being retrofitted with shore power.
Retrofit/Re-power Requirements for Infrequent Callers – Port lease language will require the use of exhaust controls or clean fuels in the auxiliary engines of vessels that do not use shore power.
Main Engine Fuel Improvement – the Port is considering incentives as part of the Green Flag Program for the use of low-sulfur (initially 1.5%) diesel or equivalent.
Auxiliary Engine Fuel Improvement – lease language will require the use of fuel with 0.2% or lower sulfur content or equivalent, or exhaust gas treatment, in auxiliary engines while ships are at berth.
Harbor Craft Measures – the Port will replace or re-power, or convert to cleaner fuels, survey boats and other Port-owned harbor craft.
Yard Tractor Modernization & Alternative Diesel Fuel Programs – lease language will commit tenants to meet contemporary CARB and EPA emission standards in new equipment, use clean fuels in existing equipment and retire older equipment.
Enhanced Cargo Handling Modernization – lease language will require accelerated replacement of terminal equipment with equipment meeting future off-road standards for diesel engines.
Diesel Emissions Reduction Program – container terminal cargo handling equipment has been converted to exhaust controls and clean diesel fuel.
PHL Switcher Locomotive Modernization & Emulsified Diesel Program – PHL rail locomotives being replaced in 2007; use idle limiting devices; test DOCs.
Ultra-Low Emission Switcher Locomotives – requires PHL to deploy Green Goat and LNG switchers.
Idling Controls on Switcher & Line Haul Locomotives – install controls on PHL equipment; Ports cannot install equipment on Class 1 line haul locomotives.
Gateway Cities Truck Modernization – subsidies are being considered by POLB to commercial truck owners that trade in their diesel trucks with older engines for models with newer, cleaner-burning engines.
ARB Diesel Fuel for Class 1 Locomotives - support of this measure would be part of the Green Port legislative agenda.
Retrofit Heavy-Duty Diesel Vehicles with Diesel Oxidation Catalysts (DOCs) or Diesel Particulate Filters (DPFs) – for future container terminal projects, the Port will require installation of exhaust controls on older trucks serving the terminal
Truck Idling Reduction Measures – the Port will require truck idling limits for on-road trucks within Port boundaries.
Petroleum Coke Dust Control – the Port will continue to implement the Rule 1158

program aimed at reducing fugitive dust from petroleum coke operations.
Vessel Smoke Stack Emission Reduction – POLB Security will continue to issue warnings and citations to vessels in order to eliminate excess smoke and reduce vessels emissions while at berth.
Electric Dredging – additional electrical receptacles will be placed around the Port to facilitate the switch to electric dredging; beginning in 2008, the Port will require all non-maintenance dredging to be conducted with electric equipment.
Port Ride Share Program – the SCAQMD, under Rule 2202, requires employers of 250 or more employees to establish rideshare programs; the City of Long Beach developed a program in response to this requirement and the Port participated in the program; the City, as a result of budget issues, eliminated their program in 2003; since then, approximately 20 Port employees have continued to rideshare in an informal program; the Port is now exploring the formal re-establishment of its own rideshare program.
West Coast Sulfur Emission Control Area (SECA) – in January 2005, the Long Beach Board of Harbor Commissioners adopted a resolution urging the United States to ratify Annex VI of the International Convention for the Prevention of Marine Pollution From Ships (MARPOL). Annex VI, adopted in 1997, entered into force on May 19, 2005 and sets limits on sulfur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances. Annex VI calls for a global cap of 4.5% m/m on the sulfur content of fuel oil and calls on IMO to monitor the worldwide sulfur content of fuel.

Strategy (from Draft POLA Clean Air Program – not yet adopted by POLA Board of Harbor Commissioners)
Control Measures for Ocean-Going Vessels:
Vessel Speed Reduction – A voluntary program under which vessels are slowed within an agreed-upon distance from the port, reducing emissions of NOx.
Alternative Maritime Power – a program for ships to use shore power instead of fuel-burning auxiliary engines while at berth (also known as cold-ironing).
Auxiliary Engine Fuel Improvement Program – a program to encourage or require the use of progressively lower sulfur fuel (i.e., marine diesel oil) in auxiliary engines of ocean-going vessels at they approach the port.
Main Engine Fuel Improvement Program – a program to encourage or require the use of lower sulfur fuel in main engines of ocean-going vessels at they approach the port. This measure may be superseded by the implementation of a Sulfur Emission Control Area (SECA) by the U.S. EPA and the IMO.
Low Emission Main Engines – a program to encourage the development and use of low emission main propulsion engines (i.e., Blue-Sky series/Category 3 engines) for marine vessels calling at the port.
Reroute cleanest ships – a program to encourage or require shippers to use their newest/lowest emitting vessels calling at the port.
Control Measures for Harbor Craft
Biofuels for Harbor Craft – a program to encourage or require the use of biofuels in harbor craft operating in Los Angeles Harbor.
China Shipping Settlement Air Quality Mitigation Measures for Harbor Craft – Existing

measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including repowering/retrofitting harbor craft main and auxiliary engines. Funding for these measures comes from the China Shipping Settlement.
Control Measures for Cargo Handling Equipment
Alternative-Fuel Equipment – a program to replace existing diesel fueled cargo handling equipment with equipment powered by alternative fuels or electricity.
China Shipping Air Quality Mitigation Measures for Cargo Handling Equipment – Existing measures recommended by the Technical Advisory Committee (TAC) and implemented by the port, including replacing cargo handling equipment with low emission alternatives. Funding for these measures comes from the China Shipping Settlement.
Alternative Fuel Infrastructure for Cargo Handling Equipment – Installation of liquefied natural gas (LNG) refueling terminal within the port to support the use of LNG-powered cargo handling equipment.
Control Measures for Railroad Locomotives
Pacific Harbor Line (PHL) Modernization – a voluntary program initiated by the port (in conjunction with the PHL and the Port of Long Beach) to modernize PHL switcher locomotives and initiate the use of ultra-low sulfur diesel (ULSD) fuel.
Idling Controls for Switcher and Line Haul Locomotives – a program to encourage or require the installation of idling controls on switcher and line haul locomotives operating in the port. Idling controls automatically shut off engines after pre-set lengths of time at rest.
Electrification of Alameda Corridor and Alameda Corridor East – a measure to encourage and facilitate the conversion of the Alameda Corridor and related rail infrastructure from diesel power to electric.
Locomotive Technology Replacements – a measure to research and encourage the development of low emission alternatives to diesel locomotive power, including magnetic levitation, alternative fuels, fuel cells, and fueled/electric hybrids.
Control Measures for Heavy-Duty Vehicles
On-Road Heavy Duty Truck Alternative Fuels Program – a program to encourage and facilitate replacement of diesel trucks with alternative fueled trucks (i.e., LNG and hydrogen). The primary mechanisms will be through the existing Gateway Cities truck modernization program, a fleet-based program, and support of the California Hydrogen Highway program. The fleet-based program may include recruitment of existing fleet operators to switch to LNG, recruitment of a company that owns trucks to lease LNG vehicles, or purchase of the LNG trucks by the port, which would then lease them directly to operators.
Alternative Fuel Infrastructure for Heavy Duty Vehicles (HDVs) – installation of LNG refueling stations within the port and greater Los Angeles area to support the use of LNG-powered on-road trucks. In addition, installation of a hydrogen fueling station within the port to support the implementation of the California Hydrogen Highway program.

Strategy (from Port of Oakland Vision 2000)
Tugboats play an essential role in guiding container ships in and out of the Port. In July 2000, the Port approved funding to replace two tugboat engines with new low emission

diesel engines. This replacement will eliminate .9 tons of particulate matter (PM) and 26 tons of nitrogen oxides (NOx) annually, or 15.5 tons of PM and 431 tons of NOx over the sixteen year life of the project.
The Port of Oakland has launched a program designed to reduce emissions from trucks that operate at the Port of Oakland maritime facilities. As part of its Maritime Air Quality Program, the Port will allocate up to $2 million in incentive funding to help owners of heavy-duty trucks that haul shipping containers in the Port maritime area. Port officials estimate that there will be approximately 80 qualifying truck owners who will be eligible for up to $25,000 each in incentive funding to replace their 1986 or older truck with a 1999 or newer truck.
The Port created a program for marine terminal operators to re-power and retrofit container terminal equipment. All the marine terminal operators submitted applications for Port funding. The Port has approved changing 150 pieces of equipment to new low-emission diesel engines, installing 151 diesel oxidation catalysts and installing 159 diesel particulate filters. Besides these changes to equipment, 50% of the marine terminal operators are now using ultra-low sulfur diesel fuel to further reduce emissions. The container terminal equipment program will reduce hydrocarbon emissions by nearly 80%, carbon monoxide emissions by nearly 70%, nitrogen oxide emissions by over 30% and particulate matter emissions by over 70%. The total project will eliminate 60 tons of particulate matter, over 470 tons of nitrogen oxides and over 150 tons of hydrocarbons.
The Port of Oakland announced a year-long demonstration test of a cleaner fuel (PuriNOx™) in on-road diesel trucks that haul shipping containers to and from the Port's marine terminals in combination with a test of a diesel oxidation catalyst, or DOC (AZ Purimuffler™) - a type of exhaust control that reduces emissions. The Port, Air District and the Air Resources Board are funding the $148,000 project. A dozen heavy-duty diesel trucks from Horizon Lines will be used for the demonstration testing. DOCs typically reduce particulate matter emissions 20 to 30%. The combination of technologies could result in as much as a 50% reduction in particulate matter and a 20% reduction of nitrogen oxide emissions.

Appendix D
ARB List of Strategies to Reduce Emissions From Ports and International Goods Movement

Strategy	Status (Adopted or New Strategy)	Implementation Could Begin By		
		2010	2015	2020
SHIPS				
Vessel Speed Reduction Agreement for Southern California	2001	✓		
U.S. EPA Main Engine Emission Standards	2003	✓		
U.S. EPA Non-Road Diesel Fuel Rule	2004	✓		
ARB Rule for Ship Auxiliary Engine Fuel	New	✓		
Cleaner Marine Fuels	New	✓	✓	✓
Emulsified Fuels	New	✓	✓	✓
Expanded Vessel Speed Reduction Programs	New	✓	✓	✓
Install Engines with Emissions Lower than IMO Standards in New Vessels	New	✓	✓	✓
Dedicate the Cleanest Vessels to California Service	New	✓		
Shore Based Electrical Power	New	✓		
Extensive Retrofit of Existing Engines	New		✓	✓
Highly Effective Controls on Main Engines and Existing Engines	New		✓	✓
Sulfur Emission Control Area (SECA)	New		✓	
Expanded Use of Cleanest Vessels in California Service	New		✓	
Expanded Shore Power and Alternative Controls	New		✓	
Full Use of Cleanest Vessels in California Service	New			✓
Maximum Use of Shore Power or Alternative Controls	New			✓
COMMERCIAL HARBOR CRAFT				
Incentives for Cleaner Engines	2001-2005	✓		
ARB Low Sulfur Diesel Fuel Rule	2004	✓		
ARB Rule to Clean Up Existing Engines	New	✓		
Shore Based Electrical Power	New	✓		
New Engine Emission Standards	New		✓	

Strategy	Status (Adopted or New Strategy)	Implementation Could Begin By		
		2010	2015	2020
CARGO HANDLING EQUIPMENT				
Incentives for Cleaner Fuels	2001-2005	✓		
ARB Low Sulfur Diesel Fuel Rule	2003	✓		
ARB/U.S. EPA Tier 4 Emission Standards	2004	✓		
ARB Stationary Diesel Engine Rule	2004	✓		
ARB Portable Diesel Equipment Rule	2004	✓		
ARB Rule for Diesel Cargo Handling Equipment	New	✓		
ARB Rule for Gas Industrial Equipment	New	✓		
Upgrade to 85% Diesel PM Control or Better	New		✓	
Zero or Near Zero Emission Equipment	New			✓
TRUCKS				
ARB/U.S. EPA 2007 New Truck Emission Standards	2001	✓		
Vehicle Replacement Incentives	2001-2005	✓		
ARB Truck Idling Limits	2002-2005	✓		
ARB Low Sulfur Diesel Fuel Rule	2003	✓		
ARB Smoke Inspections for Trucks in Communities	2003	✓		
ARB Transport Refrigeration Units Rule	2004	✓		
ARB Low NOx Software Upgrade Rule	2005	✓		
Port Truck Modernization	New	✓	✓	
Enhanced Enforcement of Truck Idling Limits	New	✓		
Ensure International Trucks Meet U.S. Emission Standards	New	✓		
LOCOMOTIVES				
ARB Low Sulfur Diesel Fuel Rule	2004	✓		
ARB 2005 Agreement with Railroads to Cut PM Statewide	2005	✓		
Upgrade Engines in Switcher Locomotives	New	✓		
Retrofit Diesel PM Control Devices on Existing Engines	New	✓		
Use of Alternative Fuels	New	✓		
More Stringent National Requirements	New		✓	
Concentrate Tier 3 Locomotives in California	New		✓	
OPERATIONAL EFFICIENCY				
Efficiency Improvements	New	✓	✓	✓
Transport Mode Shifts	New	✓	✓	✓
LAND USE DECISIONS	New	✓	✓	✓
PROJECT AND COMMUNITY SPECIFIC MITIGATION	New	✓	✓	✓

Appendix E
List of Acronyms

A	
AAPA	American Association of Port Authorities
AB	Assembly Bill
ACA	Assembly Constitutional Amendment
ACE	Alameda Corridor-East
ACS	Automated Commercial System
ACTA	Alameda Corridor Transportation Authority
AIS	Automatic Identification Systems
AMS	Automated Manifest System
APL	American President Lines
ASVTS	Automated Secure Vessel Tracking System
ATMIS	Advanced Transportation Management Information and Security
ATS	Automated Targeting System
B	
BHC	Board of Harbor Commissioners
BNSF	Burlington Northern Santa Fe Railway Company
BT&H	Business, Transportation & Housing Agency
C	
CAFTA-DR	The Dominican Republic-Central America-United States Free Trade Agreement
CAL/EPA	California Environmental Protection Agency
CALMITSAC	California Marine and Intermodal Transportation System Advisory Council
CALTRANS	The California Department of Transportation
CAP	Clean Air Program (Port of Oakland)
CARB	California Air Resources Board
CARL MOYER FUND	Carl Moyer Memorial Air Quality Standards Attainment Trust Fund
CBP	Bureau of Customs and Border Protection
CGMTA	Coast Guard and Maritime Transportation Act of 2004 (P.L. 108-293)
CIEDB	California Infrastructure and Economic Development Bank

CIP	Connectors Improvement Program (I-110/SR-47)
CIRIS	California Interregional Rail Intermodal System
CITT	Center for International Trade and Transportation
CMA	California Maritime Academy
COHS	California Office of Homeland Security
COTP	Captain of the Port
CPISAQIA	California Ports Infrastructure, Security, and Air Quality Improvement Account
CRNCI	Columbia River Navigation Channel Improvement
CSI	Container Security Initiative
CSULB	California State University Long Beach
CTC	California Transportation Commission
C-TPAT	Customs-Trade Partnership Against Terrorism
CTV	California Transportation Ventures, Inc.
CWIB	California Workforce Investment Board
D	
DBFO	Design Build Finance Operate
DBOM	Design Build Operate Maintain
DERP	Diesel Emissions Reduction Program (POLB)
DHS	Department of Homeland Security
DOC	Diesel oxidation catalysts
DTRFM	Diesel Truck Retrofit and Fleet Modernization Program
E	
EIRP	Engine Idling Reduction Program
EPA of 2005	Energy Policy Act of 2005, Act Title VII (Vehicles and Fuels)
EU	European Union
F	
FAST	Freight Action Strategy
FECA	Federal Advisory Council Act (P.L. 92-463).
FEU	Forty Foot Equivalent Unit
FHWA	Federal Highway Administration
FMP	Fleet Modernization Program

FSSFGT	Framework of Standards to Secure and Facilitate Global Trade
FY	Fiscal Year
G	
GATT	General Agreement on Trade and Tariffs
GCCOG	Gateway Cities Council of Governments
GGIF	Global Gateways Improvement Fund
GLS®	Global Logistics Specialist®
GMAP	Goods Movement Action Plan
GPS	Global Positioning System
H	
HDV	Heavy-duty vehicles
HSRC	High Speed Rail Corridor
I	
ICTF	Intermodal Container Transfer Facility
ILWU	International Longshore and Warehouse Union
IMO	International Maritime Organization
IRTPA	Intelligence Reform and Terrorism Prevention Act of 2004 (P.L. 108-458)
ISPS	International Ship and Port Security Code
ITIP	Interregional Transportation Improvement Program
J	
JIT	Joint Intermodal Terminal
JoC	Journal of Commerce
JPA	Joint Powers Authority
L	
LACMTA	Los Angeles County Metropolitan Transportation Authority
LAEDC	Los Angeles County Economic Development Corporation
LBCC	Long Beach City Council
LBCT	Long Beach Container Terminal
LLP	Limited Liability Partnership
LNG	Liquefied Natural Gas
LRIT	Long Range Identification and Tracking

M	
MARAD	Maritime Administration
MARPOL	International Convention for the Prevention of Marine Pollution From Ships
MATES II	Multiple Air Toxics Exposure Study in the South Coast Air Basin
MCGMAP	Multi-County Goods Movement Action Plan
MDA	Maritime Domain Awareness
MEFI	Main Engine Fuel Improvement (POLB GreenPort Program)
MGLS	Master of Arts in Global Logistics
MISNA	Maritime Information Services of North America
MLLW	Mean Lower Low Water
MPSMPTFA	Maritime Port Strategic Master Plan Task Force Act
MTC	Metropolitan Transportation Commission
MTN	Multilateral Trade Negotiation
MTS	Marine Transportation System
MTSA	Maritime Transportation Security Act of 2002 (P.L. 107-295)
MTSNAC	Marine Transportation System National Advisory Council
MXSOCAL	Marine Exchange of Southern California
N	
NAAQS	National Ambient Air Quality Standards
NAFTA	North American Free Trade Agreement
NCRA	North Coast Railroad Authority
NNI	No Net Increase Air Emissions Program
NOA	Notice of Arrival
NOx	Oxides of Nitrogen
O	
OCR	Optical Character Recognition
OFFPEAK	Offpeak gate program (PierPASS)
OHIT	Outer Harbor Intermodal Terminal
OMB	White House Office of Management and Budget
OSC	Operation Safe Commerce
OTIS-M	Off-Tideflats Infrastructure Study and Modeling

P	
P.L.	Public Law
PAPSCON	Pacific Area Port Security Center Consortium
PCA	Panama Canal Authority
PHL	Pacific Harbor Line
PIERPASS	PierPASS Offpeak extended gates program
PM	Particulate Matter
PMA	Pacific Maritime Association
PMSA	Pacific Merchant Shipping Association
POLA	Port of Los Angeles
POLB	Port of Long Beach
PPP	Public-Private Partnership
PSG	Port Security Grant Program
R	
RFID	Radio Frequency Identification
RMP	Rail Master Plan
RPM	Radiation Portal Monitor
RSAA	Rail System Alternatives Study
RTIP	Regional Transportation Improvement Program
RTPA	Regional Transportation Planning Agency
S	
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (Public Law 109-59)
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCC	Skyway Concession Company, LLC
SCDP	Strategic Commercial Development Plan– Port of Hueneme
SCIG	Southern California International Gateway (BNSF Railway)
SCLA	Southern California Logistics Airport
SCR	Senate Concurrent Resolution
SECA	Sulfur Emission Control Area
SGP	Governor's Strategic Growth Plan
SOCAL-MTSAC	Southern California Marine Transportation System Advisory Council

SOLAS	Safety of Life at Sea Convention
SOx	Oxides of Sulfur
SR	State Route
SSAS	Ship Security Alert Systems
STIP	State Transportation Improvement Program
T	
TCNS	Trade Corridors of National Significance
TEA-21	Transportation Equity Act for the 21st Century
TEU	Twenty-Foot Equivalent Unit
TRAPAC	Trans Pacific Container Terminal
TSA	Transportation Security Administration
TWIC	Transportation Worker Identification Card
U	
ULESL	Ultra-Low Emissions Switcher Locomotive
ULSD	Ultra-Low Sulfur Diesel
UPRR	Union Pacific Railroad
USCD	U.S. Customs District
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USGAO	U.S. General Accounting Office
UTC	University Transportation Center
V	
VACIS	Vehicle and Cargo Inspection System
VCTC	Ventura County Transportation Commission
VCY	Virtual Container Yard
VHF	Very High Frequency
VMT	Vehicle Miles of Travel
Vision 2000	Vision 2000 Maritime Development Program (Port of Oakland)
W	
WCCC	West Coast Corridor Coalition
WCNFGP	West Coast National Freight Gateway Program (LAEDC)
WCO	World Customs Organization
WFC	Waterfront Coalition
WTO	World Trade Organization